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Saturday 8 August 2009

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BREAKING NEWS


## News: Nikon D300s

The D300 gets HD video

ALL BUDGETS

## What's the best macro system?

New and second-hand kit

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**Amateur Photographer** For everyone who loves photography

## News, views and reviews



## Technique



## On test and technical







## Your pictures



## Features



## Send us your pictures

To have your pictures published in Gallery, send in a selection of up to ten images. They can be either a selection of different images or all have the same theme. Digital files sent on CD should be saved in a Photoshop-compatible format, such as JPEG or TIFF, with a contact sheet and submission form. Visit www.amateurphotographer.co.uk/apgallery for details. We cannot publish images without the necessary technical details. Each RGB image should be **a minimum of** 2480 pixels along its longest length. Transparencies and prints are also accepted. We recommend that transparencies are sent without glass mounts and posted via Special Delivery. For transparencies, prints or discs to be returned you must include an SAE with sufficient postage.

## Our address and other contact details


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COVER PICTURES © BRIAN VALENTINE AND BRIAN MATTHEWS

## Take a close-up view of the world


If there is one area of photography that can make us more carefully consider our place in the grand scheme of the universe, it is macro photography. As humans, we tend to assume that the Earth was made for us and we are its most significant residents. The housekeeping processes of nature go on while we concern ourselves with more important issues, such as perfecting a Jamie Oliver fruity summer pudding or watching the cricket. We are, after all, part of a complex and sophisticated civilisation, so of course we shouldn't have to use our time worrying about how fallen cherries disappear by themselves. If we did, we'd have had no time to invent photography. It is extraordinary, though, that there are hundreds of thousands of ants at work all day in my back garden, and I hardly know anything about them. I do know they take away my dropped cherries, but who takes away theirs?

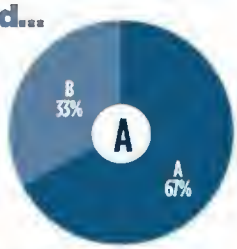
When you look at our world from space you see the seas and land masses; no houses, cars or shopping centres. It's only when you get closer that the fascinating story of humankind begins to unfold. When you look at your garden through a macro lens, you'll find yet another complex world waiting to be discovered.

## Our question of the week

**In AP 25 July we asked...**
**Do you often need a bit of external stimulus to get your photography going?**

**You answered...**

A Yes 67%
B No 33%




**This week we ask...**
**How do you shoot your macro?**
**A** Macro lens only **B** Bellows
**C** Extension tubes **D** I've never shot macro

**Vote online**
**www.amateurphotographer.co.uk**

**Do you have a story?**
Contact Chris Cheesman
**Telephone** 0203 148 4129
**Fax** 0203 148 8130
**Email** amateurphotographer@ipcmedia.com



# News



**'I have the utmost regard for journalists and photographers, and it was never my intention to offend any one of them'**

Councillor says sorry after photo mix-up. Page 7

© PAUL WOOD

Nikon unveils DX-format 'flagship' | Semi-pro DSLR boasts HD video

## Nikon fires up D300s to replace D300 DSLR

NIKON is set to replace its D300 DSLR with the D300s, the key difference between the two models being the addition of an 'HD' movie-recording option.

Positioned above the enthusiast-level D90, the 12.3-million-pixel D300s will go on sale on 28 August priced £1,499.99, body only.

Touted as the next DX-format 'flagship', the D300s (the 's' stands for 'superior') features 1,280x720-pixel movie recording, with autofocus (contrast-detect AF in 'Tripod' mode).

The camera records stereo sound, with the option to add an external stereo microphone (available separately). The maximum movie-clip length for HD videos is five minutes, according to Nikon.

Combining 'affordability' and 'great speed', Nikon claims the D300s can record images up to a burst rate of seven frames per second (fps) – one frame more than the


D300, a model announced two years ago. Like the D300, the D300s can shoot at 8fps with a separate battery grip. Improvements include the addition of dual CF and SD memory card storage, with the ability to choose to record stills on one card and movies on the other card, for example.

The camera's new Live View button aims to make it quicker and easier for the photographer to activate the Live View mode.

Movie clips can be edited in-camera (including Picture Control adjustment) or by using an external HD display via the camera's HDMI interface.

The built-in flash is designed to cover lenses as wide as 16mm – an improvement on the 18mm focal length coverage of the D300.

Also on board is a 'quiet shutter-release' option – allowing the user to manually reduce the sound of the camera's mirror – aimed at situations when 'discreet' photography is required.

The D300s features the same 12.3MP CMOS sensor as its predecessor and includes 51 AF points, plus an Expeed image processing engine.

Its magnesium-alloy body is sealed to help protect against dust and moisture, according to Nikon.

Other features include Scene Recognition, Nikon's Integrated Dust Reduction System, Active D-Lighting and a 3in LCD screen carrying a resolution of 920,000 dots.

Nikon is also gearing up to release a new entry-level digital SLR called the D3000. Due in UK shops later this month, the 10.2-million-pixel camera is aimed at consumers trading up from a compact camera, as well as those seeking a 'non-complicated' DSLR. For more on this, see next week's *News*.

● For details of new lenses, plus AP technical comment on the D300s, see page 6.

## Photographers to stage rights 'assembly'

AP RIGHTS WATCH
**Committed to defending your photographic rights!**

PHOTOGRAPHERS and other 'artists' are urged to converge on Chatham in Kent for an event being organised following the arrest of photographer Alex Turner under the Terrorism Act.

Turner was arrested last month on Chatham High Street, and released the same day.

The photographer made an official complaint to Kent Police and said the incident, on 8 July, left him 'traumatised'.

Police are conducting an internal inquiry following the complaint.

Members of Medway Eyes, a local 'artists' collective', want photographers to bring their cameras to the event, which is planned for 15 August at 11am.

'We really want to point out what the rights of photographers are,' a spokesman for the organisers told AP.

'We want to have an assembly in the middle of Chatham. We are going to get everybody together in one place, with their cameras, after which we will disperse to take photos of the town.'

People will then be encouraged to upload any photos they take, along with their experiences, to Flickr and Facebook.

The spokesman continued: 'We especially want to point out the value of social and documentary photography.'

He told us that it would be a great shame if future street photography was limited to 'CCTV images and Google Earth'.

The police watchdog said it will not pursue the complaint, meaning that it will be left to local police to carry out their own internal investigation.

## SNAP SHOT

### Canon 'first'

Canon has developed the 'world's first' lens-based image stabiliser designed to compensate for two types of camera shake. The Hybrid Image Stabilizer (IS) is designed to compensate for angular camera shake (rotational) and shift camera shake (linear).

'Sudden changes in camera angle can cause significant blur in images taken during standard shooting, whereas blur caused by shift-based shaking – when a camera moves parallel to the subject – is more pronounced in macro and close-up photography,' explained Canon.

Hybrid IS uses an 'angular velocity sensor' designed to detect the extent of angular camera shake (found in existing Image Stabilizer mechanisms), along with a new 'acceleration sensor' that determines the amount of shift-based movement. A new algorithm then combines the output of the two sensors and aims to move the lens elements to compensate for both types of movement. The technology is due to debut in a lens planned for release this year.

### Leica S2 delay

Leica UK has confirmed that its S2 camera will cost £15,996 and will go on sale in October, not this summer as originally planned. The 37.5-million-pixel medium-format DSLR will also be available in a version that includes a sapphire-glass monitor screen, priced £19,092. This will be called the S2-P.

# PhotoDiary

## A week of photographic opportunity

### WEDNESDAY 5 AUGUST

**EXHIBITION** Royal Photographic Society's International Print Exhibition until 30 August at Wingfield Barns, Church Road, Wingfield, Suffolk IP21 5RA. Tel 01379 384 505. **EXHIBITION** Land of the Free by Steve Schofield until 8 August at BCA Gallery, 14 High Street, Bedford MK40 1RN. Tel: 01234 818 670. Visit www.bedfordcreativearts.org.uk.

### THURSDAY 6 AUGUST

**EXHIBITION** of Norfolk and Suffolk landscapes until 29 August by Roger Dewsbery at The Upstairs Gallery, Exchange Square, Beccles, Suffolk NR34 9HH. Tel: 01502 717 191. **DON'T MISS** Bristol International Balloon Fiesta until 9 August. More than 100 balloons expected. Starts at Ashton Court, west of Bristol city centre. Visit www.bristolfiesta.co.uk.

### FRIDAY 7 AUGUST

**EXHIBITION** World Press Photo Exhibition until 5 September at Holyrood, The Scottish Parliament, Edinburgh EH99 1SP. Tel: 0131 348 5200. **DON'T MISS** Edinburgh Festival Fringe until 31 August. Tel: 0131 226 0026. Visit www.edfringe.com.

### SATURDAY 8 AUGUST

**DON'T MISS** One-day workshop hosted by renowned landscape photographer Charlie Waite at Kingston Lacy, Wimborne Minster, Dorset BH21 4EA. The workshop costs £149. Tel: 01432 839 111. Visit www.lightandland.co.uk. **EXHIBITION** Pastoral Visions by Graham Ovenden until 18 October at Dimbola Lodge, Isle of Wight PO40 9QE. Tel: 01983 756 814. Visit www.dimbola.co.uk.

© CHARLIE WAITE

### SUNDAY 9 AUGUST

**DON'T MISS** Edinburgh Military Tattoo until 29 August, outside Edinburgh Castle. Tel: 0131 225 1188. Visit www.edinburgh-tattoo.co.uk. **DON'T MISS** Robin Hood Festival until 9 August at Sherwood Forest Visitor Centre, Edwinstowe, Notts NG21 9HN. Tel: 01623 821 338. Visit www.nottinghamshire.gov.uk.

### MONDAY 10 AUGUST

**EXHIBITION** Colin Conway: Dunes and Nudes and other Female Figure Studies until 28 August at The Camera Club, 16 Bowden St, London SE11 4DS. Tel: 0207 587 1809. Visit www.thecameradub.co.uk. **EXHIBITION** Polaroids: Mapplethorpe until 13 September at Modern Art Oxford, 30 Pembroke St, OX1 1BP. Tel: 01865 722 733. Visit www.modernartoxford.org.uk.

### TUESDAY 11 AUGUST

**EXHIBITION** Foto8 Summer Show until 5 September at Foto8 Ltd, London EC1Y 0TH. Tel: 0207 253 8801. Visit www.foto8.com. **EXHIBITION** Masters of Vision, until 31 August (includes images by AP Editor Damien Demolder) at Southwell Minster, Church St, Southwell, Notts NG25 0HD. Tel: 01636 812 649. Visit.www.mastersofvision.co.uk.

# Nikon revamps DSLR lenses

NIKON chose the unveiling of its D300s DSLR (see right) to showcase two new lenses.

Nikon will next month release an upgraded version of its 18–200mm f/3.5–5.6G IF-ED VR lens, featuring a zoom lock switch and improved Super Integrated Coating, to help reduce ghosting and flare.

Priced £729.99, the AF-S DX Nikkor 18–200mm f/3.5–5.6G ED VR II also includes two ED glass elements.

Meanwhile, due out in November is the AF-S Nikkor 70–200mm f/2.8G ED VR II (£1999.99) boasting seven ED elements and Nano Crystal technology that aims to minimise internal reflections and aberration.

The nine-blade newcomer, claimed to be sealed against moisture and dust, aims to deliver 'natural background blur' and better 'light transmission'.

A Nikon spokeswoman explained that the firm wanted to bring the 'lens up to the standard [Nikon] FX DSLR users demand'.

Both lenses feature Vibration Reduction (VR) II, designed to allow photographers to shoot up to four stops slower than would otherwise be possible.

**Barney Britton**
Technical writer

"The D300 has been one of Nikon's most successful digital SLRs, but a lot has happened since its release two years ago. The D300s might be based on the same chassis, but it brings several important refinements, including dual memory card slots and HD video with the provision for an external microphone. These improvements, along with more minor additions like a new 'quiet mode' and the same 'virtual horizon' display found in the D3 and D700, will be great news for the demanding enthusiast and semi-professional photographer. Nikon hopes that the end result is that the new improved Nikon D300s will remain a very competitive camera for some time to come. Watch out for a full test in AP to see whether those hopes are justified."

# Fuji 3D camera to cost 'around £550'

THE first three-dimensional digital camera that lets users see 3D images without special glasses is expected to cost around £550.

Though the price is not yet confirmed, the ten-million-pixel Fujifilm FinePix Real 3D W1 is due out next month.

The 3D camera creates two images using two lenses, captured simultaneously at slightly different viewing angles. It can also take 2D images, like a conventional digital camera, according to Fujifilm, which unveiled the concept last year.

'The Real Photo Processor 3D... synchronises data passed to it by the two lenses and two CCD sensors, to determine shooting conditions such as focus, brightness and tonality to instantaneously blend this information into a single symmetrical image, for both stills and movies,' said the firm in a statement.

It adds: 'When using the 3D two-shot function, the camera shifts to take the second shot after taking the first, and saves a single 3D image in the camera manually.'

The 3D 'interval shooting' mode allows two shots to be taken from different viewpoints continuously while the photographer is moving, so 3D images of long-distance views can be taken. Users can view the image in 3D on the camera's own 2.8in LCD screen (230,000-dot resolution).

This allows images to be viewed 'live', while shooting, and played back in 3D or 2D format, according to Fujifilm.

A separate 8in 3D picture viewer (FinePix Real 3D V1) will be available, also due for release in September at an unconfirmed price of £350. The screen carries a resolution of 480,000 dots.

Fujifilm says it will also launch a 3D 'lenticular' printing service, dedicated to those who buy the camera.

The camera features a lens designed to deliver the 35mm viewing angle equivalent of a 35–105mm zoom. The maximum equivalent ISO sensitivity is 1600 and exposure control modes include aperture priority and manual.

**Do you have a story?**
Contact Chris Cheesman
**Telephone** 0203 148 4129
**Fax** 0203 148 8130
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# Ricoh revamps GR Digital to take on DSLRs

RICOH has announced its latest digital compact, the GR Digital III, boasting improvements over its predecessor including a 'fast' 28mm [35mm viewing angle equivalent] f/1.9 lens.

Out next month, priced around £530, features also include a new ten-million-pixel CCD imaging sensor and an image-processing engine called GR Engine III, designed to reduce noise 'without loss of resolution or saturation'.

Also key to the new camera is the ability to set a fixed focus distance. This feature enables 'zero' shutter lag, so it is ideal for 'candid' photography when fast reactions are required, said Kazunobu Saiki, Ricoh's European general manager for Personal MultiMedia.

In an interview with AP, Saiki also confirmed that, this autumn, Ricoh plans to launch an external TTL flash unit (codenamed GF-1).

Ricoh says that continuous shooting of five, raw format, frames per second is possible, adding that this 'rivals popular SLRs'.

The raw file write speed is '2.6sec or less', according to Ricoh, which is faster than the 3.8sec speed on the GR Digital II.

The camera also adds a 'vivid' setting and the ability to customise colour parameters. 'For each colour (orange, green, sky blue, red and magenta), hue and saturation can be set at five levels,' said the firm.

'This enables you to change the colouration; for example a stronger blue to give a more brilliant sky or flower colour tones with a little less magenta.'


A new multi-pattern auto white balance system segregates light and dark areas of the image to 'optimise' the white balance setting for each area, instead of using an average setting for the whole image. Shutter speed priority has also been added, as has a 3in LCD screen carrying a resolution of 920,000 dots.

New to the GR range is Ricoh's dynamic range double-shot function. This enables the user to expand the range to '12EV', to help reduce under or overexposure.

The number of 'My Settings' is increased from two to three, and a 'My Settings Box' should enable greater customisation.

## SNAP SHOT

### New mju

A spate of summer launches from Olympus includes the new mju-7010, a £249 model housing a 12-million-pixel imaging sensor. The mju-7010 is equipped with dual image stabilisation and magic filters – digital effects similar to the Creative Filters on the latest Olympus E-System DSLRs. The firm has also unveiled a trio of new 12MP FE-series models in the shape of the FE-5020 (£169); FE-4000 (£139); and FE-26 (£99). All four models are due in shops this month.

### Canon showcase

Canon plans to stage a two-day showcase of its professional imaging products at the Business Design Centre in Islington, London, on 27 and 28 October. The Canon Pro Photo Solutions event will be free to enter (if registered in advance) and includes live demonstrations, photographers' talks and seminars. Visit www.canon.co.uk/prophotosolutions.

### DSLR 'harness'

A harness designed to allow photographers to carry two DSLRs at the same time has been released by US firm Op/Tech. The harness also allows photographers to carry a camcorder or binoculars. It costs £34.99 and comes in two sizes. Visit www.newprouk.co.uk.

### Flu fears

Fears over swine flu have hit the photographic printing business as demand for photographers drops because of cancelled school trips, states a Japanese trade journal. The 'new flu' hit Japan's photofinishing and printing business 'hard' in June – a time when many schools hire photographers to record sports days, reports the Tokyo-based publication 'Pen News Weekly'. The article adds: 'School trips bring in extra business to photographers, photo studio and photo stores, as well as photofinishers. 'This year, an epidemic of the new flu terrified school management and many schools put off the school trips.'

# Panasonic reveals new 'HD' cameras

PANASONIC has unveiled four new 12.1-million-pixel compact cameras that combine stills photography with 'HD' movie recording.

First up is the Lumix DMC-FZ38, which incorporates a revamped version of Optical Image Stabilizer (OIS), dubbed Power OIS. The upgrade – featured on all four new Panasonic models – is designed to help prevent camera shake even when using a long zoom.

Panasonic claims this function doubles the 'shake suppression' of previous models.

The DMC-FZ38 boasts a f/2.8 Leica DC Vario-Elmarit lens that is designed to deliver the 35mm viewing angle equivalent of a 27-486mm optic.

Its creative mode includes the ability to manually set the shutter speed and aperture. Also, adds Panasonic, the camera's battery life has been extended to enable it to shoot up to 470 images before the next recharge.

The camera's advanced scene mode now includes a 'close-up' option.

The 367g newcomer (pictured below) also sports a 2.7in LCD screen (230,000 dot resolution) and records 1280x720 pixel movies in AVCHD Lite format.

See AP 22 August for a test of the DMC-FZ38.

The three other cameras in Panasonic's summer line-up also sport wideangle lenses.

Billed as ideal for travel is the DMC-ZX1, which carries a 25-200mm (35mm equivalent) Leica DC zoom, housing a 'super-thin' 0.3mm aspherical lens.

Meanwhile, the DMC-FX60 boasts a 25-125mm equivalent lens, while the DMC-FP8 has a 28-128mm zoom.

Prices and UK availability dates had yet to be announced as we went to press.


© PAUL WOOD

# Fire tragedy photograph in rights row

PHOTOGRAPHS of the Camberwell fire tragedy became the centre of a fierce rights row after a Labour councillor used the images in a blog without permission, believing it was copyright free.

Photographer Paul Wood accused John Friary, a Labour councillor for the London Borough of Southwark, of grabbing images of the Lakanal House blaze to use in his blog without seeking permission or paying.

Angry at the move, Wood then demanded 'twice' his usual fee for this type of image.

Seemingly unaware of copyright rules, Friary sent Wood an email admitting he had used the picture on his website in an attempt to reflect the scale of the disaster in which six people died on 3 July.

'I obtained pictures of Lakanal from the web using Google and used a number of images from a variety of sources, none copyright protected or attributed,' he told Wood.

Realising the error, Friary removed the image from his website and later apologised for his 'overly defensive' response to Wood's complaint.

'The matter is now resolved,' Friary told AP. 'I have the utmost regard for journalists and photographers, and it was never my intention to offend any one of them.'

Wood, who says he sought advice from the Selling Your Photography internet group, told AP: 'The situation has been sorted out amicably... Mr Friary agreed to remove the images and has apologised. And he is making a donation to the Camberwell Fire Appeal on my behalf.'

# National Trust bids to allay rights fears

PREVIOUS controversy over a National Trust photo competition has prompted the Trust to stress that it will not assume the right to use pictures entered in its latest contest.

Commenting on the Time Well Spent competition, Andrew Mclaughlin, head of communications for the Trust, told us that entries are 'not intended for the [National Trust] photo library'.

Earlier this year the National Trust came under fire from photographers who accused its Picture Yourself competition of a 'copyright grab'. Protests from photographers led the Trust to change the terms and conditions of the competition.

Its new competition, Time Well Spent, is designed to encourage people to take pictures of the National Trust's countryside, gardens, parks and beaches. It is organised in conjunction with *The Sunday Times*.

The most popular images, chosen by members of the public in an online vote, will be shortlisted for the chance to win Nikon digital camera gear.

'Terms and conditions have been developed in accordance with Pro-Imaging Bill of Rights to protect photographers' interests,' said a spokesman for the organisers.

'The recession has led more people to seek out the simple pleasure of spending time with friends and family and in the amazing surroundings the UK has to offer.

'It is the perfect time to capture images associated with these changing times, and for visitors to decide what picture best sums up time well spent.'

For details visit http://myphoto.nationaltrust.org.uk.

## SNAP SHOT

### Global shoot-out

More than 32,000 photographers took to the streets on 18 July in a global event aimed at capturing more than 1 million images on the same day. The event included 900 'Photo Walks, with 33 across the UK and Ireland. Organised by the National Association of Photoshop Pros and backed by Adobe, the project invited photographers to process their photos using Adobe Photoshop Lightroom and post them at http://worldwidephotowalk.com/.

### Are you AP's oldest reader?

AP is looking for the magazine's oldest reader for a feature planned to coincide with its 125th year of publication. Anyone who can help should email amateurphotographer@ipcmedia.com.

### Snap to it

A £5,000 holiday to Florida is up for grabs in a competition featured on the Snappy Snaps website. The closing date for the contest, which asks questions based on an advert, is 21 August 2009. For details visit www.snappysnaps.com.

© JIMMY FORSYTH

# Tributes to street photographer

TRIBUTES have been paid to 95-year-old Jimmy Forsyth, whose pictures documented Newcastle life for more than five decades. Jimmy died last month at Elswick Hall Care Home, Newcastle, a few days before his 96th birthday.

Despite losing the sight in one eye in the 1940s, Jimmy began documenting the city's Scotswood Road in 1954. He had taught himself photography after buying a camera from a junk shop.

Reporting his death, the *Newcastle Evening Chronicle* said: 'He recorded incidents such as a hole in a bedroom wall caused by a runaway beer wagon in 1960. It was used by the *Evening Chronicle*, earning Jimmy 7s 6d.'

Jimmy staged his first major exhibition in the early '80s. A spokesman for Newcastle's Side Gallery, which showcased his early work, said: 'His work stands as one of the great records of its kind - a portrait of a working class community from within... we will all miss him.'

Born in Barry, South Wales, Jimmy left school at 14. In 1943 he sought a job as a fitter in Newcastle before losing the sight in one eye in an industrial accident.

His photographic talent went unnoticed until he took his albums to a local library in the 1970s where an expert realised their significance and began cataloguing thousands of Jimmy's pictures

# ClubNews

AP's weekly round-up of club news from all over Britain

**Wigan Strobist Club**

The club meets once a month at Swan Meadow Industrial Estate, Wigan, Lancashire WN3 5BE. The next meeting takes place on 5 August at 7pm. For details call 01772 735 147.

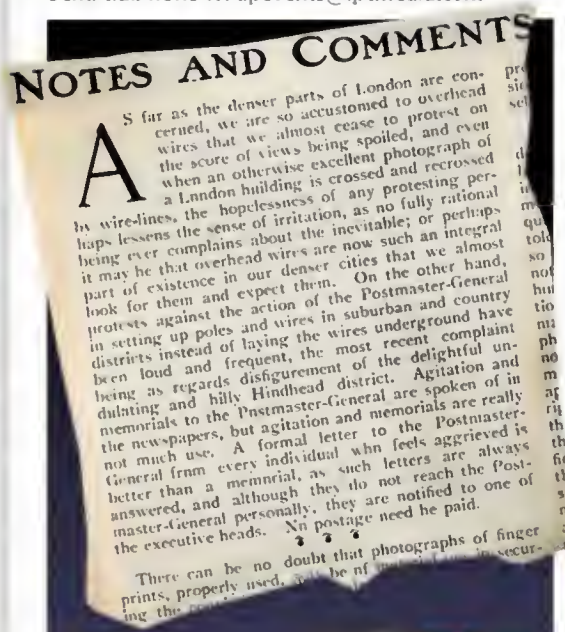
**Wakefield Camera Club**

The club plans to run photographic workshops every Monday evening throughout August (except the Bank Holiday). All are welcome to the sessions, which cost £1 on the door and take place at Wakefield City Club, Brunswick Street (off Kirkgate), Wakefield, West Yorks WF1 4PW. For details call 01924 255 471 or visit www.wakefieldcameraclub.org.uk.

**Chelmsford Camera Club**

The club's annual exhibition of prints will take place 17-28 August at Chelmsford Central Library, Market Road, Chelmsford, Essex. For details call 01245 263 700.

Send club news to: apevents@ipcmedia.com



NOTES AND COMMENTS

AS far as the denser parts of London are concerned, we are so accustomed to overhead wires that we almost cease to protest on the score of views being spoiled, and even when an otherwise excellent photograph of a London building is crossed and recrossed by wire-lines, the hopelessness of any protesting perhaps lessens the sense of irritation, as no fully rational being ever complains about the inevitable; or perhaps it may be that overhead wires are now such an integral part of existence in our denser cities that we almost look for them and expect them. On the other hand, protests against the action of the Postmaster-General in setting up poles and wires in suburban and country districts instead of laying the wires underground have been loud and frequent, the most recent complaint being as regards disfigurement of the delightful undulating and hilly Hindhead district. Agitation and memorials to the Postmaster-General are spoken of in the newspapers, but agitation and memorials are really not much use. A formal letter to the Postmaster-General from every individual who feels aggrieved is better than a memorial, as such letters are always answered, and although they do not reach the Postmaster-General personally, they are notified to one of the executive heads. No postage need be paid.

There can be no doubt that photographs of finger prints, properly used, [illegible]

## Amateur Photographer This week in... 1905

Overhead wires were a constant source of irritation for photographers, causing 'disfigurement' to landscapes even back in 1905. The latest source of agitation related to wires spoiling views of the 'delightful undulating and hilly Hindhead district', in Surrey. 'As far as the denser parts of London are concerned, we are so accustomed to overhead wires that we almost cease to protest on the score of views being spoiled...' read the 'Notes and Comments' column in AP's issue dated 8 August 1905. The journal urged aggrieved readers to lobby the Postmaster General over the issue. 'Such letters are always answered and although they do not reach the Postmaster General personally, they are notified to one of the executive heads. No postage need be paid.'

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**www.olympus.co.uk/pen**

# Review

Your guide to the latest photography books, exhibitions and websites


**Book review**

## Doug Box's Guide to Posing for Portrait Photographers

*By Doug Box*
*Amherst Media, paperback, 128 pages, £22.99, ISBN 978-1-58428-248-8*

We've all seen badly posed photographs, so it was with some trepidation that I read Doug Box's guide to posing. However, I must admit that I was very pleasantly surprised.

Box really covers the gamut here, dissecting the intricacies of expressions and angles of view. He describes the best poses for men and women and large groups, and how to emphasise their best features, along with case studies to provide the reader with a visual reference. It's thoughtfully compiled, right down to the details of hands and feet. There could have been a little more information on backgrounds and how they may affect your pose or framing, but apart from that Box's guide stands complete with plenty of advice for those even just looking to take some family snaps. **Jeff Meyer**


**Website**

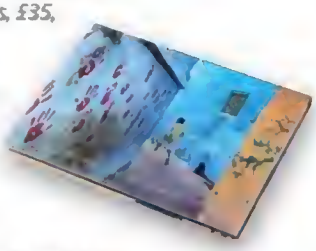

## www.eyeofscience.com

Every living organism is packed full of molecules invisible to the human eye. Not even an ordinary camera lens can record the complexity of design. As photographers we are used to questioning the world around us, but rarely do we probe the inner world of molecular biology. The main reason is cost, and few of us have access to the high-tech equipment needed for this type of photography. Two people who do have the means are photographer Oliver Meckes and biologist Nicole Ottawa. The duo, who are based in Germany, founded Eye of Science in 1994, and since then have built up an impressive body of microscopic images. Their aim is to create visually appealing images that push the boundaries of scientific investigation. The pictures in their Gallery intricately employ colour, light and texture, and the result is images that are artworks in their own right. From fungi to bacteria, Meckes and Ottawa present a world that is close to us but usually unseen. **Gemma Padley**

Book review

# The Unguarded Moment

*Thirty Years of Photographs by Steve McCurry*
*Phaidon, hardback, 156 pages, £35,*
*ISBN 978-0-7148-464-4*



The 'unguarded moment' occurs when people forget there is a camera trained on them and any self-conscious thoughts or pretensions disappear. It's when people are at their most natural, and it's what uber-photojournalist Steve McCurry has spent a career pursuing. While not quite a retrospective but rather a companion to McCurry's 2000 best-seller 'South Southeast', 'The Unguarded Moment' draws from McCurry's travels over the past 30 years to far-flung places such as Yemen, Chad and Myanmar. The content lives up to the billing, with stunning use of light and colour complementing his relaxed, tranquil subjects. Most striking, though, is the size. All the images in this book are landscape format, printed at 15x10⅞in, many of which I hadn't seen before. At £35 it's a little pricey, but if you're a fan of portraiture you'll love this. **Jeff Meyer**

Exhibition

## Man on the Moon

*Until 15 August. The Independent Photographers Gallery, 3 Old Brewery Yard, High Street, Battle, East Sussex TN33 0AF. Open Tues–Sat 11am to 4pm (closed Sun). Tel: 01424 775 650. Website: www.ipgbattle.com. Free admission*

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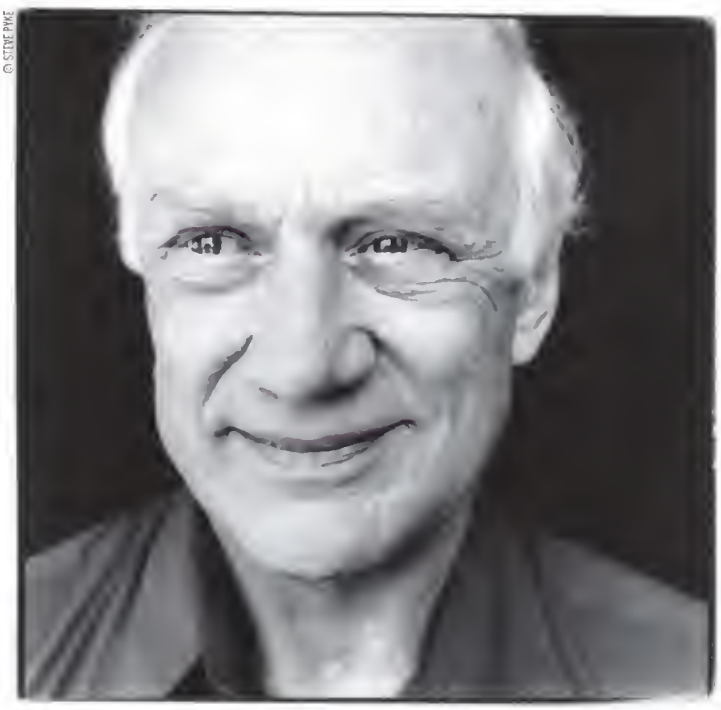

© STEVE PYKE

Steve Pyke, one of Britain's foremost portrait photographers, has teamed up with award-winning documentary film-maker Nichola Bruce to commemorate the 40th anniversary of the Apollo moon landings. The exhibition features rare images from the NASA archive, many taken by the astronauts, and a host of space exploration ephemera including a hatch from the Apollo 11 spacecraft. Footage by Nichola Bruce documenting Steve as photographed astronauts Buzz Aldrin (right), Charlie Duke and Frank Borman also features. The exhibition coincides with the International Year of Astronomy 2009 and provides a unique insight into the events on the day man first set foot on the moon. Gene Cernan's 'last foot on the moon' is pictured above. A £2 exhibition catalogue accompanies the show. **Gemma Padley**

# Letters

## Share your views and opinions with fellow AP readers every week

Letter of the Week

### Pocket pictures

I first started taking photographs as a boy in the late 1940s using my dad's box camera, after which I used my own Zeiss Ikon folding camera that I still have to this day. The 1960s brought me into 35mm and on to SLRs and my current Canon EOS 30.

Like Steve Gosling in his article *How to get the best from a... digital compact* (AP 18 July), I too tried smaller cameras as a backup when I didn't feel like lugging the EOS around, but they were always lacking something. Even the Canon Digital IXUS II never pleased me – perhaps it was too gimmicky. I hadn't thought about using digital technology until last year when I bought a 2MP Samsung camera phone. Some of the images were quite remarkable, particularly in well-lit situations, and made nice postcard-sized pictures.

Then, earlier this year for my 70th birthday, I was given an inexpensive (about £60) Samsung S1060, with a 10.2MP sensor and useful programs that were not too difficult for my limited technical skills. What a change it has made! I now enjoy taking photographs again, even prompting me to buy AP a few weeks ago for the first time in more than 20 years.

When taking a daily walk with my dog, my pocket Samsung adds an extra dimension. The warm weather earlier this year brought back butterflies like I haven't seen for ages, and to my delight this compact will focus

to less than 5cm when needed. It's not always easy to get that close, but a little patience works wonders. I am so pleased with the results, having 'captured' more than a dozen different types of butterfly and daytime moths to date.

So, yes, Steve Gosling is absolutely right: 'attitude is the problem, not the equipment'. I have attached one of my images, which is of a hoverfly. It's not perfect, but I think it's quite acceptable for an inexpensive digital compact.
**Bob Williams, Devon**

**You can't beat a good compact in your pocket. They really are very good nowadays – *Damien Demolder, Editor***

### What a guy!

As photographers we often have gripes and complaints about this, that and the other, but sometimes it's worth giving praise where it is due. For instance, I've just had my Nikon F3 HP repaired by Mr M Brody of Axco camera repairs in London. It only needed its contacts cleaned and a repair to the HP prism, which had a small dent. There is now no indication of where this damage was, and Mr Brody re-painted the Nikon lettering free of charge – again, with no sign of where the paint had once peeled.

Mr Brody has been repairing cameras for 60 years and the service he gives is fantastic. I thought the overall cost would have been more than the £61 he charged me for the job.
**Colin Henderson, Cumbria**

### Record of the times

Leslie Murdoch's letter in AP 18 July implies that only the prints of enthusiast photographers are valid archive material. I would suggest that it is the 'average' snapper's images that tell us more about the social history of a generation.

We enthusiasts tend to capture images that have little to date them: landscapes that haven't changed in eons, flora or fauna that look as they always have. Heaven forbid we ever capture an image that the dreaded camera club judge refers to as a 'record shot'. Damnation indeed!

However, the plates and negatives taken during the 20th century on box brownies and compacts tell us how and where people lived in their time. The trend for digital 'storage' will leave future generations with technology that will probably require specialist antique devices to read it. Even then our grandchildren will probably not recognise that this old technology even contains images – unlike the box of old prints and/or negatives we find in our grandparents' loft!
**John Marshall, Hertfordshire**

**It's true that prints are the most compatible and accessible medium. I really do think we should all print more – *Damien Demolder, Editor***

### If I could turn back time

I finally picked a camera up after a 30-year break some three years ago when I bought myself a second-hand Canon EOS 10D, some lenses and a basic book on photography. I've



**Letter of the week**

wins a 20-roll pack of 36-exposure Fujifilm Superia ISO 200 print film or a Fujifilm 2GB media card (in a choice of CompactFlash, SD, xD or Memory Stick)*. The sender of every letter published receives a free roll of Fujifilm Superia ISO 200 36-exposure film worth £4.99

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been thoroughly enjoying myself, but have made a strange decision of late. I decided to sell my EOS 10D and bought a second-hand Olympus OM-1 and some nice lenses from a classic camera dealer. In short, I've gone back to film and manual working because I enjoy using my brain and thinking things through. However, I don't know how much longer I can work in this way so I have opted to buy an Olympus E-420 kit and an OM adapter so I can continue to use my lovely (and very cheap) Zuiko lenses.

I am sad that film and the core skills that made a photographer seem to be dying, albeit slowly. My OM kit is a fraction of the price and half the size of my old EOS kit, and it's much easier to carry around with me, plus it doesn't rely on batteries. I do have a computer and a Canon CanoScan 8800F scanner, and have come to the conclusion that digital SLRs are a digitisation too far. I wish I was back in the age of 'real' photography.
**Graham Horne, North Yorkshire**

**Film photography is great fun, and is quite a different experience to digital photography, but I'm not convinced it requires more skill – *Damien Demolder, Editor***

## Smash and grab

It has been my practice for many years to fit a UV or skylight filter to every lens, if only to protect the front element. Recently, the wisdom of this was brought home to me, as I opened the car boot at our holiday destination and my camera bag fell on to the floor.

I thought no more of it until I came to use my 70-210mm zoom lens on my camera. The UV filter was badly broken, with shards of glass in the bottom of the bag, but the front element of the lens was OK and, after blowing the powdered glass off it, the lens performed normally.

I did not begrudge buying a replacement filter. The cost of the previous one had been a cheap insurance premium!
**Howard Lewis, Peterborough**

**A fortunate escape! Maybe fitting Bungee cords to your bag will help, too – *Damien Demolder, Editor***

## Back on track

The explanation of sulphide (sepia) toning given in FAQ (Q&A, AP 18 July) is misleading. The bleach is made up of potassium ferricyanide and potassium bromide. It is the latter substance that re-halogenises the silver. The sulphide then produces an image of silver sulphide, which is insoluble and not sensitive to light. Were silver sulphate to be produced (as suggested), this would be soluble and any residual would be light-sensitive and darken over time.
**Raymond Rayner, Tyne and Wear**

**Thanks, Raymond. You are of course correct and we apologise for any confusion caused – *Richard Sibley, Technical Writer***

## It's PC gone mad

Not all police officers are anti-photography. Despite having a couple of unpleasant encounters myself with over-zealous officers and security when taking photographs, I have also experienced the other kind. I took this snap (I had no time for technical considerations) at our annual funfair, Hull Fair, one of the oldest and largest in the country and a great place for photography. Some of my best tip-offs of local wildlife have come from patrolling Police Community Support Officers who were only too happy to chat about photography.
**Bob Carter, East Yorkshire**


# Back Chat

AP reader **Patrick Dodds** considers the amateur photographer's raison d'être

THE other day I read an article that suggested a typical front-page story in 'National Geographic' magazine is accompanied by 16 photographs. I also read that, before digital imaging came along, the same stories would have involved the photographer concerned taking an average of 650 – wait for it – rolls of film. Assuming 36 shots per roll, that's 23,400 pictures. For one story. Goodness knows what the total is for those photographers today who might be using digital equipment.

The same article suggested that the official US presidential photographer takes on average 700 shots a day. If we assume a few days off on holiday and at weekends, some private time for the Obama family, and some time spent actually processing those same 700 pictures, that's still maybe 200,000 shots a year. Supposing a keep rate of 1% (surely a conservative figure given the nature of the events attended, the degree of access the photographer has, and the fact that his or her presence is usually welcomed), that's a 'success' rate of 2,000 shots a year. What would an amateur give for such a rate?

And therein lies the rub. For the average amateur there's no reason to take 700 pictures a week, let alone a day (though some might say that the average professional doesn't need to take 700 pictures a day). Of course, if my wife were meeting Prime Minister of Israel Binyamin Netanyahu one day and attending a D-Day commemorative service the next, I'd have good reason never to put my camera away. Yet chugging off to a supermarket for late-night opening on a Thursday or leaving for work on a rainy Monday morning in February doesn't, at first glance, inspire one to pick up a camera. Interest can be piqued by holidays, competitions, days out, brides, grooms, new babies, even well-taken shots on the daily commute, but picture-taking opportunities can still seem limited to those not employed to make photographs for a living. For the amateur, one of the biggest problems over time thus becomes the lack of a raison d'être for picking up a camera.

> **For the amateur, one of the biggest problems over time becomes the lack of a raison d'être, for picking up a camera**

Yet it is against precisely this lack of purpose that the amateur who is determined to improve must struggle. For unless we decide that we are content with the level of proficiency we have reached, we need to overcome this perceived lack of a rationale in order to continue to improve our art. Finding a reason to go on taking more and better pictures becomes an important part of the challenge for the amateur, even on those rainy Monday mornings – in fact, especially on those rainy Monday mornings. So I am going to stop typing now and pick up my camera bag. There you go – there is really nothing to it!

Your thoughts or views (about 500 words) should be sent to 'Backchat' at the usual AP address (see page 3). A fee of £50 will be paid on publication

## The AP experts

Each week, one of our team of experts of Steve Bloom, David Clapp, Tom Mackie and Clive Nichols will reveal the secrets behind one of their great images. This week it's Clive Nichols

**CLIVE NICHOLS Gardens**
As the UK's top garden photographer, Clive's knowledge and pictures are in constant demand. His expertise will be invaluable

Amateur Photographer Technique

# Photo Insight

**CLIVE NICHOLS** EXPLAINS THE SUBTLETIES OF COMPOSITION AND WHY SHALLOW DEPTH OF FIELD WORKS BEST WITH REPETITIVE SHAPES

THESE bleeding hearts, or *Dicentra spectabilis*, were cut from my garden, where hundreds grow every summer. I mentioned previously that I like to take floral portraits in a small makeshift studio in my living room, which essentially entails just a table next to the window and a piece of coloured card as a background. Often I shoot single flowers, but sometimes I like to use more graphic subjects with stronger patterns. Bleeding hearts are perfect for these types of images.

The problem with photographing any flower is catching it before the colour fades, but when you are aiming to capture several flowers on one stem it is more difficult to find

a specimen. With flowers, there is a period of one or two days when they look perfect. As bleeding hearts come out along a stem, by the time the last flower emerges the first ones have died. You need to be precise and catch them when several along the stem are looking rich in colour. Growing them is great because I can watch them more closely than I can those growing in another garden.

Eventually, when I have a section of about seven or eight flowers looking just right, I clip the stem and bring them inside. A subject like this that is more graphic than others really needs to be shot inside if you want to get the viewer to notice its patterns and complexity. Had I shot this outside, the background would compete with what I wanted to show. The jumble of stems and leaves and other rows of flowers would distract attention, and the effect would be horrible.

Normally I would do this shot pink on pink, selecting a background colour to match the flower, but here I really wanted the pink flowers to stand out so I chose a neutral mustard colour that wouldn't draw attention to itself. Lighting is also an important element in making your subject stand out. I used simple window light from the left. I then used a piece of white card on the right to bounce some of that light back onto the subject and give myself a more even exposure. Having soft, even light brings out the small details and texture in your subjects.

Finally, after experimenting with different compositions, I settled upon this one. I liked the shallower depth of field I was getting at f/4 on my Canon EOS 1D Mark II, which concentrates the viewer's attention on the in-focus flower and draws the eye along as the bleeding hearts drift out of focus into the background. The repetition of shapes from right to left lends itself very well to this effect. It's a strong pattern, yet one that is also gentle and subtle. This effect works well with other plants, such as cacti, that have a natural symmetry to them. **AP**

To see more pictures by **Clive Nichols** visit **www.clivenichols.co.uk**


## Using different angles

**1** In my first attempt at this image I was using f/11 and getting a lot of depth of field. However, because the background is plain, having great depth of field doesn't matter so much. This is a good picture, but it doesn't take advantage of the strong repetitive shapes. Part of what makes an image great is spotting what's special about your subject and then making adjustments to play up that feature.

**2** In my second attempt, I changed my composition more radically than with the others. When you are shooting the whole length of the stem, as I did in the other images here, it lends itself well to a landscape format. For this shot, though, I decided to concentrate on a few individual flowers and zoomed in. Later I cropped this to a square to give it an even tighter frame. Unlike in image 1, I used a shallow depth of field to isolate my focus. I liked the effect with the square crop, but I thought I was only halfway there.

Ultimately, I decided the pattern effect would stand out more by zooming back out and shooting the whole length of the stem with a shallow depth of field, the result of which is image 3.

# WIN!

Photographer

Manfrotto

## A **VIP** TRIP TO WATCH A ONE-DAY **ENGLAND VS AUSTRALIA** INTERNATIONAL CRICKET MATCH

Includes two hospitality tickets for the Rosebowl, Southampton, on **9 September 2009**, overnight accommodation and a Manfrotto tripod and head, courtesy of Manfrotto

TO celebrate its perimeter advertising, and as part of its commitment to cricket, Manfrotto is offering you the chance to win a pair of tickets to one of the top cricket matches of the summer – England vs Australia at the Rosebowl in Southampton, Hampshire, on Wednesday 9 September 2009.

The winner and their guest will also receive 'that little bit extra', because as well as the hospitality tickets for the England vs Australia International One Day event, all food and drinks will be included throughout the day, plus all travel to and from the event*, and overnight accommodation. You'll even take home a Manfrotto tripod and head (055 CXPro3 with an 804RC2 head) worth £384.90!

The 055CX series is the latest addition to the award-winning 'X' range of tripods, Manfrotto's premium range designed to be the best in terms of performance and quality. The 055CX carbon tripod range includes three models: the CXPro3, CXPro4 and CX3.

An extremely versatile tripod with an eye-catching, ergonomic design, the 055CX features outstanding qualities in terms of height, rigidity, payload and setup speed while offering extreme lightness thanks to its carbon-fibre structure.

There will also be two lucky runners-up: one will win a 190XB tripod and a 056 head, worth £139.90; and the other will win an M-Y 7302YB tripod and head, worth £119.95.

*UK and Ireland only
Closing date 31 August 2009
Internet-only competition for one pair of tickets including hospitality and Manfrotto tripod and head, and 2 runner-up prizes of Manfrotto tripods and heads with www.amateurphotographer.co.uk and www.whatdigitalcamera.com

To find out more about Manfrotto, contact Bogen Imaging on 01293 583300 or visit **www.bogenimaging.co.uk**

To enter this competition, and for terms and conditions, log on to:

**www.amateurphotographer.co.uk/competitions**

Bright directional sunlight illuminates the petals of this daisy to create a backlighting effect. Brian uses two extension tubes for his flower photography – a Canon EF12 and EF25, similar to those pictured below

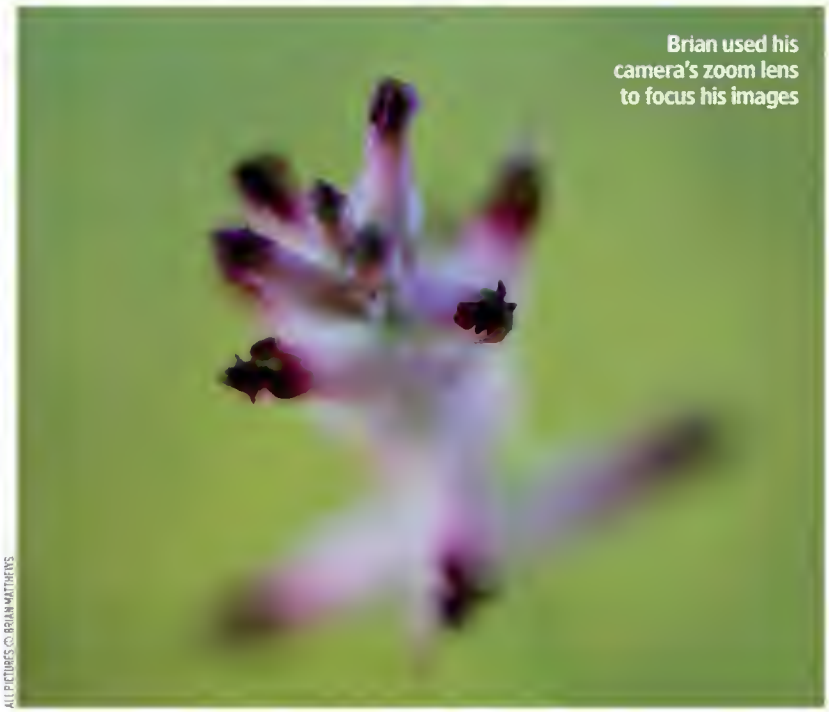
# Mimicking macro

**Brian Matthews** tells **Gemma Padley** how he used a wideangle zoom lens and an extension tube to create his magnified flower images

YOU don't have to use a macro lens for macro photography. Although it may sound absurd, it is possible to create macro images full of impact using a wideangle lens and an extension tube – if you have the curiosity to experiment. This is exactly what nature photographer Brian Matthews did while photographing flowers in his back garden.

'I was using a macro lens with two extension tubes – a Canon EF12 and EF25 – on my Canon EOS 1Ds Mark II camera to capture some close-up shots of daisies, but decided to see what effects I could get using my 24-70mm zoom lens,' explains Brian, 30, who lives in Hartlepool in north-east England. 'The wideangle zoom and extension tube work together to create an abstract effect. The extension tube allowed me to get close to the flowers and created a shallow depth of field. The wideangle lens, when used this close to the subject, gave a distorted effect. For some of the shots I was actually touching the petals with my lens, but most of the time I was less than a centimetre away. Framing the shots wasn't too difficult because it is easier to fill the frame when you're right up close.'

Brian took most of his images lying on the ground and set his focal length to 40-45mm. 'At 45mm, the flower



Brian used his camera's zoom lens to focus his images

ALL PICTURES © BRIAN MATTHEWS

was either just in contact with the lens or a fraction from the end,' he says. 'If I had used a wider focal length than this, it would have been impossible to focus because the front element would have been too close to the subject.'

Using the zoom function to control his focusing, Brian focused on the front petals or tried shifting his focus to the middle of the bloom. 'When you are so close to the flower the focusing can be hard to control,' he says. 'Any slight movement will shift the focal point, so once you're in position you have to stay still.'

Brian took these images late in the afternoon using only natural light. He was careful to ensure he didn't overexpose the lightest areas, but if he saw his image was overexposed he set a faster shutter speed to compensate. 'The sun was still quite high in the sky, but it was just starting to drop,' he says. 'One of the main difficulties was finding an angle that didn't cast shadows from the lens onto the flower. I played around with the light by moving my camera to different positions and tried shooting into the sun. As the light shone through the back of the petals, I could create some really luminous backlit daisy images.'

Brian got as low as possible and adjusted the position of his camera so the flower petals contrasted with the greens of the background. 'I positioned my camera low and made sure the dark green backdrop filled the frame,' he says. 'You could also try shooting on a slight incline looking up at the flower to get a similar effect or you could use an angle finder to look down into the camera. The technique works best for flowers that are no more than a couple of centimetres tall, but you don't always have to be photographing flowers on the ground. You could also try photographing foliage that is higher than ground level.'

Brian's main concern was making sure he minimised camera shake. 'When you are working close to your subject, every detail

## Talking technique

**This image of grass shows the effect altering your shooting angle can have on the depth and perspective of your composition. Brian started by holding his camera parallel to the grass and then tilted it slightly to the right. This has created the effect of the stem trailing away to the left and helped to make the grass appear that it is coming out of the frame.**

In the spider image, Brian placed his camera underneath the foliage at an upward angle. He chose to focus on the spider and framed his shot so it was positioned just off-centre, roughly on a third, to create a balanced composition that was pleasing to the eye. 'Initially it was difficult to get the spider pin sharp because it was moving,' says Brian. 'I waited until the spider was where I wanted it in the frame and then adjusted my focus. If I had set my point of focus before framing the shot, it would have been difficult to keep the spider sharp because any movement would have thrown the focusing out.'

An extension tube allowed Brian to get up close to his subjects

is magnified and any camera shake is even more obvious,' he says. 'I used an ISO setting of 400 to give me a fast shutter speed and freeze any movement. Most of the images were taken at around 1/200sec and I also used a beanbag to rest my camera on to help stabilise the shot. I wouldn't have been able to get as low as I needed if I had used a tripod.'

Camera shake was especially problematic when Brian photographed clusters of flowers. 'When there are several flowers, your camera is in contact with surrounding foliage so you have to be even more aware of moving leaves or petals,' he says. 'If you are careful with your focusing, though, you can blur the surrounding flowers to create a hazy background and still keep your subject sharp. In my bluebell images (see right), I threw the background out of focus which made the main bluebell leap out of the frame.'

The technique also works for indoor flower photography, adds Brian. 'As long as you chose a background that is pleasing to the eye, there is no reason why you couldn't try placing a flowerpot or vase of flowers near a window and use natural window light instead,' he says. 'You could also experiment with off-camera flash if you want to try something a bit more advanced.'

While Brian prefers not to spend too much time using Photoshop, he will make minor Levels and Curves adjustments. This involves tweaking the hue and saturation, and increasing the contrast slightly to bring out the darker parts of the flowers.

'This is a technique you can do at any time of the day,' says Brian. 'If you take time to get your camera at the right angle to the sun, you can create really beautifully lit images. The technique works well with any commonly found flora, but brightly coloured flowers such as dandelions and buttercups work particularly well. It just goes to show you don't always have to use a macro lens to get close to nature.' **AP**

# Bluebell variations

## Brian created different images of the same subject by adjusting his camera angle

**1** Brian wanted to isolate one flower and throw the other bluebells out of focus. He positioned his camera between the flowers to get as close to the main subject flower as possible and looked down the length of the bloom to accentuate the bell shape.

**2** Brian used the pale green stems in the background to provide contrast with the blue of the flower and make it stand out. This shot was taken from below the flower so the stamens are visible.

**3** Brian included several bluebells in this composition. 'My aim was to fit as many flowers in the frame as I could,' he says. 'I shot from a high angle and was approximately 5cm away. The high angle meant I could capture greenery in the background.'

**4** Brian again zoomed in on a group of flowers but his intention this time was to highlight the dark stamens in the centre. A shallow depth of field blurs the background flowers, but the shapes are still visible. The green background again contrasts nicely with the blue.

**A bluebottle on a wooden seat**
Canon EOS 40D, 65mm macro

# The insect files

Macro photographer **Brian Valentine** brings us eye-to-eye with the insect world in breathtaking clarity. One of the web's most popular macro photographers tells **Jeff Meyer** his techniques for getting in close and sharp

WHEN Brian Valentine retired early in 2001, the West Sussex-based former microbiologist found that he had quickly run out of the normal things to do when you stop working and realised he needed to start a serious hobby. 'I thought it would be fishing,' he says, 'but as the fish in my garden pond got bigger than the fish I was catching, I decided I'd better find something else.'

For many years he had an old Pentax film SLR that he used mainly for holidays and family snapshots. With all this extra time on his hands, Brian says he began to look at his camera anew. The problem with it, though, was that he was never quite sure it would capture the picture he wanted. Finally, in 2005, Brian bought his first DSLR, a Canon EOS 300D with a Sigma 105mm lens, and his life-long study of smaller worlds manifested itself again in a budding interest for macro photography.

'I like macro because you get to immerse yourself in the environment,' he says. 'At the macro level the world is a much more unexplored place. In some ways this makes it easier to take strangely beautiful photographs.'

When he first started out, Brian admits he was plagued by problems. 'You have a lot of wasted shots because macro comes with all the obstacles of little depth of field, camera shake and poor light,' he says. 'It's hard to get used to the techniques.'

It took Brian a while to develop a routine that works for him, but eventually, after a lot of attempts and a little luck, he got the hang of it. Soon after, he signed up to the online photo-sharing site Flickr and began uploading his images. The response was phenomenal, and some 19,000 images later Brian is one of the most viewed photographers on the website. The national newspapers have sought him out to use his images, and he was even going to be the subject of a BBC documentary.

'The key to photographing insects is to learn how to get close without spooking them,' Brian says. 'Keep low, stay out of their light and move very slowly. Sometimes it can take you a minute or two to get the camera close enough to the insect to take a picture.'

At this point many photographers might raise their hands and say, 'What? Move?'

'I don't like tripods,' Brian says. 'I like going out and hunting for bugs rather than waiting for them to come to me, so I shoot everything handheld. My trick is to use a beanpole, on which I used to grow runner beans. I grip it in my left hand alongside the camera, which is enough to stabilise the camera. I always use manual focus and fix my magnification, moving forwards and backwards until I get clean focus. Essentially, I'm rocking back and forth on the pole.'

Another technique Brian uses is to slowly and carefully take hold of the plant the insect is resting on. 'If you have a close-focusing camera, you can then rest the lens on your hand,' he says. 'This gives you mechanical linkage between the camera and your subject so that everything is vibrating at the same frequency. Simply twist the plant to get the angles you want.'

Brian uses three lenses – a 200mm standard lens with extension tubes for more timid subjects, such as dragonflies; a Sigma 105mm macro; and a Canon MP-E 65mm macro, which magnifies up to 5:1 without adding anything. It's one of the easiest ways to shoot extreme macro because it doesn't need bellows or extension tubes.

Macro is popular, Brian says, because it draws fans from two camps: those who like the science of it, and those who are fascinated by the stunning colour and structure of smaller subjects.

In the Flickr groups and forums he runs, Brian finds that most macro lovers agree about what makes a good picture despite coming from different backgrounds. Where they do disagree, however, is on composition. 'You get a lot of argument about this in macro circles,' he says. 'There is no definitive shot; it just depends on what you're trying to capture.

'Some people prefer the pleasing shot with nice light and everything lined up on the thirds. I revel in fine-detail shots, so I'm not as interested in getting the perfect composition. I take the same approach as if I were photographing people – we almost always expect to see an eye in a photograph, so I want to capture an insect's mouth and face. I'm thinking mainly about how I can get as close as I can and fill the frame with my subject. The only compositional rule I do follow

**A miner bee warming up on Brian's finger, focus stacked** Canon EOS 40D, 65mm macro

A small fly on a wooden seat, focus stacked
Canon EOS 40D, 65mm macro

ALL PICTURES © BRIAN VALENTINE

A hoverfly on a miniature pine tree, cropped
Canon EOS 300D, 105mm macro

## Focus stacking

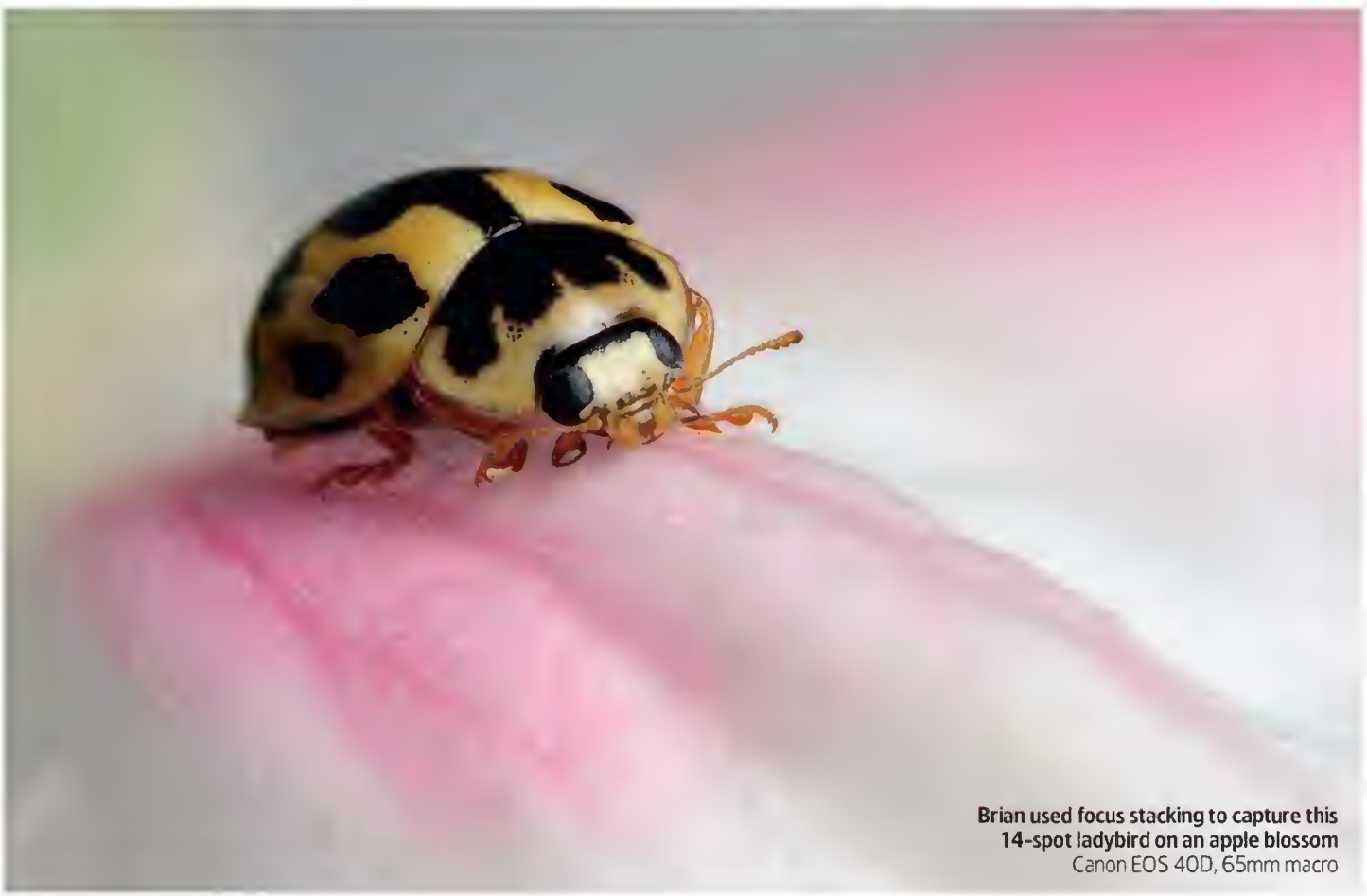
Amateur Photographer Top tip

To ensure that his pictures are sharp throughout the frame, Brian uses a technique called 'focus stacking' in which he takes a series of pictures of each section of an insect. If you imagine you were taking a panoramic shot of a mountain, you might divide it into thirds, shooting each third individually to stitch together later in Photoshop. Focus stacking is very similar.

'I might start off by shooting the front of the bug in focus,' Brian explains. 'Next I would move the plane of focus back in increments. I usually take between two and ten pictures, but you get some people who take up to 100 pictures, which is crazy. The main thing you want to do is allow for a bit of overlap of each section as you move the focus plane back across the insect.

'To overlap, I use a simple rule. I focus on one part of the insect and note where the image is just starting to go out of focus with the lens wide open. I then make sure that the out-of-focus area is sharp in the next shot. The exposure doesn't always have to be the same – you just want everything pin-sharp. It's kind of like HDR, but with your field of view. When I've finished, I use freeware called CombineZM (see page 28) to blend all the shots together.'

**A house fly resting on a wall, focus stacked**
Canon EOS 40D, 65mm macro



**Brian used focus stacking to capture this 14-spot ladybird on an apple blossom**
Canon EOS 40D, 65mm macro

**A damselfly on an orchid flower with a Frisbee for the background. Brian focus stacked this image**
Canon EOS 20D, 65mm macro

is that I try to give the bugs more room in the direction that they're facing – unless a bug is facing me, and then I centre it.

'I also try to take a series of images of one subject, zooming in incrementally. First I'll show the whole insect, then slowly shorten my focal length. Fine detail doesn't make sense if you don't have an understanding of it.'

As detail is so important to Brian, he tends to shoot with wider apertures than other macro photographers to avoid diffraction. Most normal lenses start to get diffraction at about f/16, he says. At 1:1 your aperture at f/16 becomes f/32. At 5x magnification you get ludicrous effective apertures, but these don't give depth of field, just diffraction. That's why he shoots wide.

Brian also uses a process called focus stacking (see box on page 25), where he takes a series of pictures of sections of his subject, ensuring each is in focus. Later, he stitches them together in his image-editing software in a similar way to making a panoramic landscape image.

He relies mostly on flash to light his subjects because the natural light when working that close beneath leaves can be quite poor. 'I use normal flashguns mounted on a bracket with some big home-made diffusers,' he says. 'I use a parabolic-shaped reflector I made out of soft drinks cans with diffusion material over the front of it. I then put a bullhead where the flash is attached, which allows me to move it. I can move the diffuser head so it's right next to the end of the lens, which gives me a very big light source next to the end of the lens and much more diffuse light.'

This light source is normally so big that he lights the whole insect, but one of the problems at higher magnifications is that he gets a violent drop-off of light and a black background. 'If you want to get fancy, you can use dual flashguns and point one at the background,' he explains, 'but I tend to arrange a shot so that my background is close enough to the subject that it will be illuminated. You can also point the flash more towards the background than the subject if the subject is reasonably lit.'

Much of the time, though, Brian doesn't have a choice of background. His insect subjects fall into two groups – common insects, and those he hasn't photographed before. If he spies a new bug his instinct is to take the shot wherever it is. For more common insects, he starts to get pernickety. 'In natural light, I might opt for a creamy bouquet or arrange for leaves and flowers to add colour,' he says.

A trick for moving bugs to more photogenic backgrounds is to catch them between a piece of cardboard and glass, he says, and then put a drop of honey on the cardboard. If the insect is attracted to it, you can take the glass off and stand the cardboard on a filter case. As it eats, you can rest your camera on the kitchen counter and take some low-angle shots of it.

'People think insects are easily startled,' Brian says, 'but they're a bit like human males – you just need to give them something to do.' **AP**

**A fungus gnat taken on a wet water-barrel lid with a flower behind and focus stacked**
Canon EOS 40D, 65mm macro


## The bug whisperer

**Brian offers his tips for approaching bugs without scaring them off**

**1** Make sure you are not blocking out the sunlight on the insects

**2** Keep low (if possible, at the same level or lower than the bug)

**3** Approach slowly, taking pictures as you go, so at least you end up with something if they do fly off

**4** I often find that if the bug is occupied with something, such as cleaning, feeding or mating, it takes almost no notice of you, but if it is just sunbathing it can be a bit jittery

**5** The smaller the bug, the less notice it will usually take of you

**6** If you do scare the bugs off, just wait a while – they will often come back

**7** Stand or sit near a popular plant or flower and wait for the bugs to come to you. They seem to regard you as part of the scenery if you are there when they arrive

**8** Although it's harder to take pictures of insects if it's slightly windy, they are less jittery. On many occasions I've actually managed to hold the leaf the bug was on to stabilise it when it's windy

**9** Shoot early in the morning while the bugs are still cold – they have a hard time flying then

To see more of Brian's pictures, visit his Flickr page at **www.flickr.com/photos/lordv** or his personal website at **www.lordv.smugmug.com**

# Focus stacking with CombineZM

Amateur Photographer Explains...

Depth of field is extremely limited at close focusing distances. **Barney Britton** explains how to use CombineZM software to create back-to-front sharpness in macro images

IN macro photography, depth of field can be limited. Even at very small apertures, when shooting small subjects from very close range, front-to-back focus is usually impossible to achieve in a single exposure.

As you've seen in Brian Valentine's article (pages 22–27), focus stacking is one solution to this problem. By stacking several images of the same subject together that were taken at different focus settings, the illusion of greater depth of field is created. Brian Valentine uses CombineZM, which is a free software program for PCs that is designed to do this and has proven very popular with macro fans. Here's how to use it.

**1** Brian Valentine has explained how to take a series of images at different focusing settings in his article on page 25, but to get CombineZM to treat the images as a series it is a good idea to rename them individually as numbers, from the furthest focusing point to the nearest. My series is relatively small, and runs from 1-6. With CombineZM running, go to 'File>New' and find the folder with your series of images. Select them and press 'OK'.


**2** CombineZM will now prepare the images in your stack, applying colour and brightness corrections and aligning the frames. This step is necessary because when you shift the focal point of a lens, the subject size changes slightly. Once this process is complete, go to 'Macro>Do Stack' from CombineZM's main window.

**3** CombineZM will now process the images in your stack to create a single combined image. This can take a while, but once it's finished simply go to 'File>Save Frame/Picture As' and save the image in your preferred file format. Due to the way that CombineZM works, you may find that you see 'halos' around the edges of your combined image, and there may be some small areas of the image that appear unexpectedly blurred. A bit of experimentation with more or fewer images in a stack can help, but you should expect to do a little tidying up of the final image using the Clone and Patch tools in Photoshop.

## Fine-tuning

CombineZM's default settings are great for most purposes, but you may find that you want to tweak the program slightly to meet your particular needs. Detailed information about the various parameters can be found online at http://tinyurl.com/2s8ztp (original link shortened for convenience), but here is a quick guide to fine tuning the amount of sharpening that CombineZM applies by default.

**1** Go to 'Macro>Edit>Macros', and select 'Do Stack', then click on 'Create a Highpass Filter'.

**2** Click 'Edit' and change the second number in the row of three edit boxes. Higher numbers mean less sharpening, and '1,000' means none. 3. Now click 'Update' and close the window. If, after creating a stack, you're happy with the changes, you can save it as a new macro by going to 'Macro>Edit>Save Macro As...'

**CombineZM** is free, and is compatible with all current versions of Microsoft Windows. The easiest way to find download and help links is by entering 'CombineZM' into the search bar of your internet browser.

# Gallery

Send us a selection of your pictures and see your work printed in Amateur Photographer. Visit www.amateurphotographer.co.uk/apgallery for details

**Ronald A Eve**
Essex

**White dahlia... 1**
Ronald set the flower against a black background in his conservatory
Canon EOS 50E, 100mm macro, 1/60sec at f/16, Kodak Elite Chrome EBX 100, tripod, remote release

**Red chrysanthemum**
**1** By spraying water droplets on the petals, Ronald gives the flower extra sparkle
Canon EOS 50E, 100mm macro, 1/4sec at f/22, Fujichrome Sensia 100, tripod, remote release

**Pink hydrangea**
**2** The blue background contrasts with the pink flowers, causing them to leap out of the frame
Canon EOS 50E, 100mm macro, 1/4sec at f/22, Fujichrome Sensia 100, tripod, remote release


## Ronald A Eve
Essex

Ron is a long-standing contributor to AP, who has been taking pictures for more than 50 years. When he retired in the early 1990s, Ron started concentrating on macro photography. 'I began by setting up shots in my conservatory using coloured backgrounds and natural light,' he says. 'I love being able to show the patterns inside the flowers. Occasionally I use fill-in flash and I often add water droplets to imitate morning dew.'

**Red rose and water droplets**
**3** 'Shooting inside as I did here allows me to control the conditions,' says Ron.
Canon EOS 50E, 100mm macro, 1½secs at f/22, Fujichrome Sensia 100, tripod, remote release

**White dahlia... 2**
**4** Soft shadows contrast with the water droplets in Ron's image
Canon EOS 50E, 100mm macro, 1/45sec at f/22, Kodak Elite Chrome EBX 100, matched 1:1 adapter

**Bee on thistle**
1 'I thought this plant looked beautiful from a distance and up close it reminds me of an exploding firework,' says Sarah
Fujifilm FinePix A900

**Rose**
2 Sarah liked the way the reflected light in the water altered the colour of the petals
Fujifilm FinePix S1000fd, super macro setting

**Dragonfly**
3 Vibrant reds and greens of the foliage add impact to this dragonfly image
Fujifilm FinePix S1000fd, super macro setting

## Sarah Jarvis
Hampshire

Sarah, 42, has enjoyed taking pictures since she was a teenager, but started to take her photography more seriously in the past couple of years. Her favourite subjects include flowers, plants and insects. 'I like macro photography because you can see things from a totally different angle and show an insect's-eye view,' she says. One of Sarah's top locations is Hayling Island in her home county of Hampshire, although she also travels to the Cornish and Dorset coasts for photographic inspiration.


So often insect photographers concentrate solely on getting as close as possible to their subjects at the expense of creative composition. 'Filling the frame' does not have to mean with the 'beastie'. In the image above, Hari has filled the frame with interest by showing the environment of the evil-looking fly. I love its 'starter's orders' pose and the 'disapproving' down-turned dandelion seed heads. It's a shot filled with dramatic tension – Damien Demolder, Editor

## Hari Raajaraajan Bristol

'I've always been fascinated by taking pictures of small objects,' says Hari, 24. 'My parents encouraged me to pick up a camera from a young age and gave me the motivation to try different camera techniques. I'd like to take my photography to the next level by learning new macro skills and processes.' Hari also enjoys landscape photography and has experimented with HDR techniques.

**Insect on dandelion**
**1** Hari didn't use a macro lens, but was still able to get close to this insect using a standard 18-55mm lens
Nikon D40x, 18-55mm, 1/80sec at f/5.6, ISO 400


**Dandelion**
**2** By shooting the flower straight on and zooming in close, Hari has created an abstract, non-static image of a dandelion head
Nikon D40x, 18-55mm, 1/500sec at f/5.6, ISO 200

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# Appraisal

## Expert advice, help and tips from AP Editor Damien Demolder

### Stones
Mike Savage

Pentax Optio S50, 1/8sec at f/4.8, ISO 100

Mike says he collected the stones for this shot from a beach at Cleveleys in Lancashire and photographed them on his kitchen worktop. He made a background from a piece of A4 copier paper. His intention, he says, was to produce a fine-art-type picture that would look good in a frame hanging on a wall. It's quite an ambitious project for his Pentax digital compact camera, although it is entirely possible to do, so long as you are aware of the limitations of the camera.

The Pentax Optio S50 has a zoom lens that runs from about 36-108mm in 35mm terms, and it seems that Mike has used the wider end in Super Macro mode. The closest the camera can focus is, I think, about 6cm from the subject. The problem here is that the camera is a bit too close and the stones have distorted. Stones make absolutely brilliant subjects and Mike has found some really nice examples, with different textures, colours and shapes. However, he really should have used a longer focal length and stood back a little so we could concentrate those details without being distracted by distortion.

Another thing to consider is that when producing fine-art photography is the quality of the light. You can't show objects in an interesting way without thinking hard about how you're gong to light them, and light in photography is absolutely everything. The light Mike has used here is very soft and diffused, and doesn't really have any direction. Round objects like these stones require directional lighting to highlight their shape. Here the stones are rather flat because the light is unable to give us any sense of their three-dimensional qualities. Mike, if you still have these stones, it would be worth shooting them again and positioning them so that window light can shine directly on to them. If he has a north-facing window that would probably give him enough direction for his purposes, though perhaps he could tape some tracing paper across the glass to diffuse the light a little and take the edge off it.

It also looks as though it was quite dark when Mike took this shot, and his camera hasn't liked it too much. The picture isn't especially sharp, and the built-in noise reduction has had quite an impact on the image quality. However, it's a well-chosen subject, and the background is nice and clean as you would expect from this kind of fine-art print. Mike just needs to add a little more direction to his light, and avoid distorting his image by standing back a little. It also looks slightly greeny-yellow, so a more careful use of white balance was needed. However, it's a great attempt at a difficult shot.



## How to submit your pictures

Send up to six prints, slides or images on CD (please include the original files from the camera along with your submitted versions on your CD). Tell us a little about the pictures and, if you can, include details of equipment used and exposure settings.

Send your photographs to 'Appraisal' at our usual address (see page 3). Please enclose an SAE if you would like them returned.

## Orchid
Jack Yearsley

Minolta Dynax 500si, 70-300mm

Macro photography is quite difficult, purely because there are so many things you need to think about before you take your picture. It's easy to concentrate on one process and forget about the others. If you concentrate solely on the technical processes of photography, it can be easy to forget that you're trying to create a beautiful image. Likewise, you're unlikely to succeed if you concentrate on the creative side at the expense of the technical.

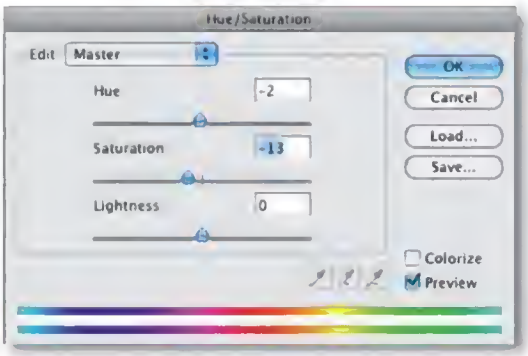
The slide sent in by Dr Jack Yearsley illustrates this point well. Jack has photographed some orchids at the Orchid Centre in Jersey. These flowers make brilliant photographic subjects simply because they look so exotic. With their unusual shapes, curling leaves, elegant long stems and beautiful colours, they're probably the supermodels of the flower world. Jack has identified a great pair of colourful, healthy-looking specimens here, and whether it was intentional or not the lighting is great. It's nice and soft, which is ideal, as it means there is very little shadow to swallow up the detail. An added bit of directional light helps to give the flowers shape, and the leaves are nicely backlit, which makes them glow attractively. Jack's composition is pretty good, although there is a stray pink petal creeping into the right-hand side of the frame, which is a bit distracting, and the uppermost bud is probably a little too close to the top of the frame.

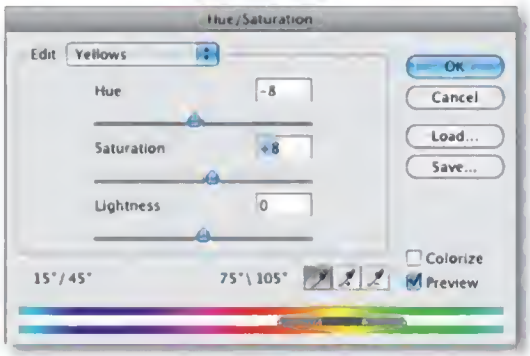
The big problem, as many of you will have already identified, is that there is a brick wall directly behind the subject. There just isn't any way of presenting a modern brick wall in a flower picture that will add value to the image: it's just not attractive. I suspect that Jack was concentrating so hard on the technical aspects of photographing this flower that he forgot to check the background. The only thing to do in these situations is to put something like a piece of card or a sheet behind the flower to act as a background and block out the wall. Of course, it is unlikely that Jack would have been carrying one of these items on his holiday in Jersey, but nevertheless he needed to do something. Perhaps he could have hung his coat behind the flower and photographed it against the lining material.

Other than that, this is quite a nice picture. Jack just needs to concentrate more on positioning the flowers in the frame, watching out for other items straying into it, and paying more attention the background. It's a great effort, though.

## Sleepy
Dave Benstead

Olympus E-510, 50mm, 1/50sec at f/2, ISO 200




This close-up picture from Dave is of a sleepy little girl sucking on her thumb, having a quiet moment before she goes to sleep, or having a rest in the afternoon. Dave says he doesn't have any fancy lighting, so for all his portraits he has to make do with natural lighting through windows and doors. In this one he says the evening light produced a very warm tone and the windows made nice catchlights in the girl's eyes. Not having fancy lights can, I think, be a great bonus, as it makes you work a bit harder with natural light and, to be honest, there isn't any light better than natural light. It's free, it's abundant and generally it's very nice. Basically, it's great for taking pictures.

Dave has found a great subject here, and he's produced a very atmospheric picture. You can see that the girl is at peace, and everything, from the lighting to the hair on her head, is nice and soft. Unfortunately, the thing that works against it slightly is that the colours are not quite right. Dave says it's a warm light, but actually it's more yellowy-green, and it makes the girl look slightly unwell. The saturation is also a little too high for such a peaceful picture. I think that if you're trying to get across an atmosphere of peace, quiet and tranquillity, then you need to capture tranquil colours – aggressive saturation just kind of breaches the peace.

So, what I've done is alter the hues of the yellows slightly in the Hue/Saturation tool, just to take out the green. I've also increased the saturation of the new colour I've created by that hue shift, and then, in the Master channel, which deals with all the colours in the image, I've given it a little shift towards magenta to remove the green further. In all, I've taken a lot of the saturation out of the image and produced a quieter photograph. However, all I've done is tinker with the picture to try to improve it slightly. Dave has done all the work, and he's done a great job. With that lovely soft light that's striking her in the face, you get a sense that the girl is staring out of the window, possibly over the sea. It's just a very nice, peaceful, atmospheric picture, and that's why it's my picture of the week. Very well done, Dave.

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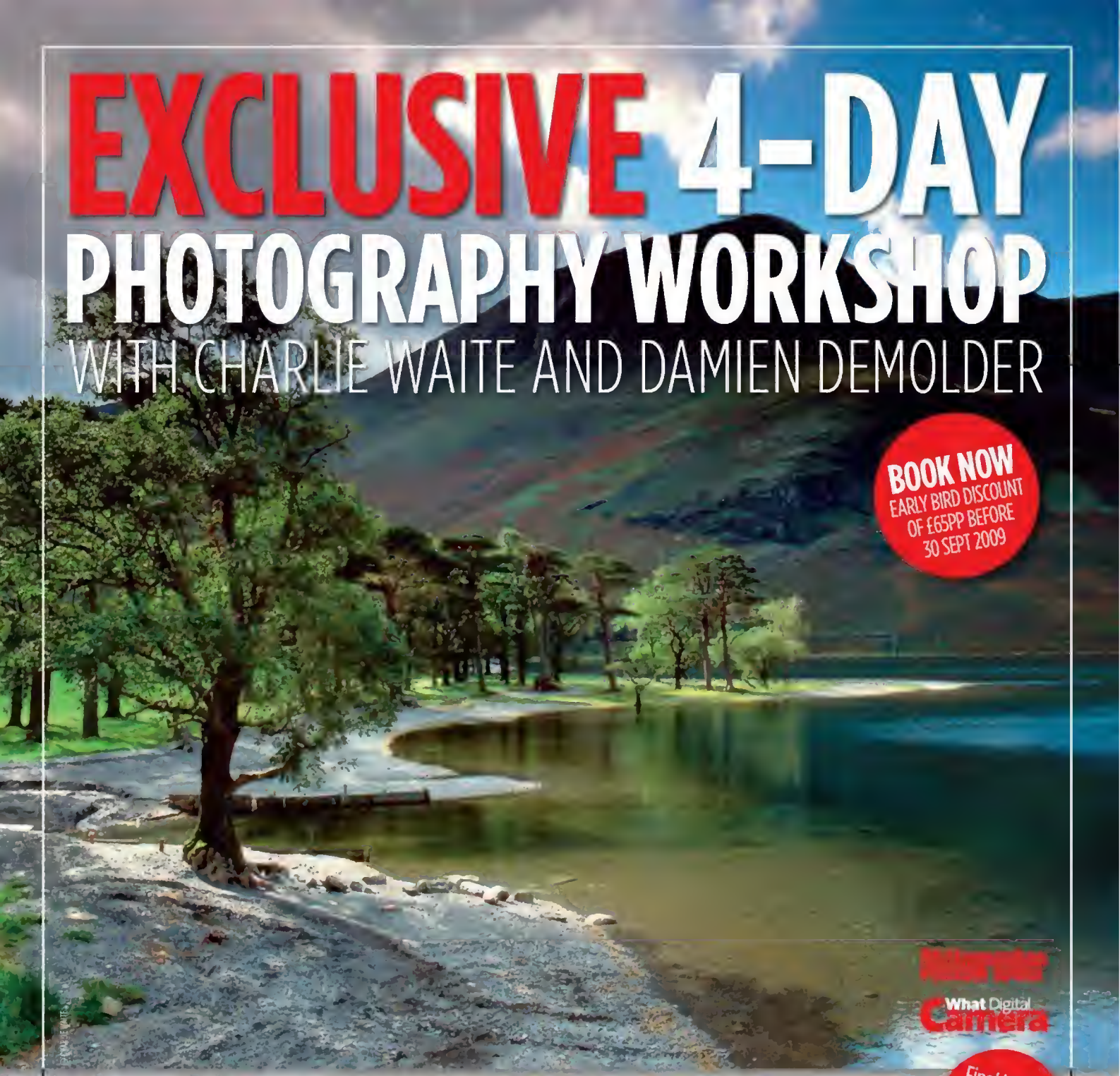

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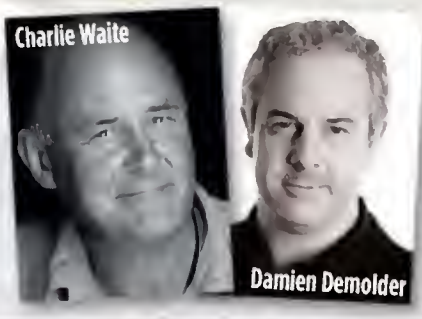


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Amateur Photographer ICONS OF PHOTOGRAPHY

ICONIC SCIENTIST

# Paul Rudolph

## 1858-1935

**Geoffrey Crawley** looks at the life and work of the man who put in place the foundations for many of the lens designs we use today and was responsible for the most famous lens ever made – the Tessar

**Paul Rudolph was responsible for developing one of the world's most famous lenses, the Tessar, while working at Zeiss**

HARDLY a week passes in AP without some mention of lens design or designers. Among the many lens designers there is one name respected by all in the photographic lens design world: that of Paul Rudolph.

The mathematics of ray tracing in lens design is a hard taskmaster and it is not surprising that Rudolph's life was, in celebrity terms, uneventful. 'All' he did was to lay the foundations of most of the designs we use today.

Rudolph was born in Kahla in Saxony, Germany, in 1858. His aptitude developed early on and, after attending school in Altenburg, he went on to study at the universities of Munich, Leipzig and Jena, the home of the Carl Zeiss company. After a few post-graduate years as a lecturer, Rudolph was invited in 1886 by Ernst Abbe, Carl Zeiss's partner, to join the firm, which was already a celebrated manufacturer of microscopes and microscope objectives.

The invitation was prompted by research into the new types of optical glass by Otto Schott's company, which had become part owned by the Zeiss partners. Rudolph's initial task was the design of apochromatic microscope objectives. Apochromats bring the three main primary colour regions of the spectrum to a common focus, rather than just two as in an achromatic lens design. By 1880, Rudolph had become interested in computing camera lenses. It was obvious that the invention of the dry plate was going to widen the photographic market vastly and each camera would need a lens. In 1890, Zeiss marketed the first lens that was corrected both for astigmatism and field curvature, and with improved colour corrections. Rudolph achieved this by using the new optical glasses developed by Schott with the collaboration of Ernst Abbe. These are known as the Jena or Abbe glasses.

Until the appearance of Jena or Abbe glasses, lens corrections had been limited to the properties of crown glass (low colour dispersion but also low refractive index) and flint glass (high refraction but also high colour dispersion). The new barium glasses gave the ideal: a high refractive index with low colour dispersion. The new ground-breaking 'Anastigmat' was renamed 'Protar' in 1900. In 1895 Rudolph computed the Planar, developments of which are still in wide use today. In all there were six groundbreaking anastigmat designs.

In 1902 Rudolph developed the most famous lens of all – the Tessar. It evolved from his Unar anastigmat and the UK Cooke Triplet of 1893. The Tessar improved the corrections by replacing the rear glass with a cemented doublet, creating a four-element lens. 'Tessar' comes from the Greek meaning 'four'. The aperture was f/6.3 and in 1906, Rudolph's assistant Ernst Weinberg recomputed it at f/3.5. Eventually it reached its maximum aperture, f/2.8, after the Second World War, using the rare earth glasses that were then being developed. By 2002, Zeiss had produced some five million Tessars and it was estimated that, worldwide, after the lapse of the patents and licensing, more than 150 million Tessar-type lenses had been made.

Rudolph's work made him a wealthy man and he retired from Zeiss in 1911. However, impoverished by post-First World War German inflation, he returned to work for the Hugo Meyer optical works in Görlitz with whom there was a Zeiss co-operation in camera design, including the renowned Minimum Palmos. In 1920 he designed the admired symmetrical Meyer Plasmat, one of whose virtues is good bokeh (preservation of subject shape in out-of-focus planes). Cinematography was beginning to boom and in 1924 Rudolph designed the f/2 Kino Plasmat. This was followed two years later by the f/1.5 Kino Plasmat, at the time the widest aperture lens in production. In the later years of his life, until his final retirement in 1933, aged 75, he is believed to have assisted in the design of Meyer lenses for the world-famous Bolex movie cameras. He died two years later, honoured worldwide.

We should remember that Paul Rudolph had no computer to speed his calculations. A successful design might follow only after years of painstaking ray path tracing using complex maths that needed to be guided by inspirational genius. Today a high-speed computer will explore all the possibilities in a few minutes. Yet no computer has come up with a successor to the Tessar type. In those days it was the ability to make successive right choices before even the first prototype was built that characterised a great lens designer. And among those Paul Rudolph is a giant. **AP**

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| + 17-85mm IS | £1199.99 |
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### Panasonic

| | |
|---|---|
| Panasonic G1 + 14-45mm | £519.99 |
| + 40-150mm | £729.99 |

## Lenses

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| Sigma 70-300mm | £189.99 |
| Sigma 50mm 2.8 EX | £239.99 |
| Sigma 17-70mm F2.8 | £319.99 |
| Sigma 18-50mm F2.8 EX | £319.99 |
| Sigma 14mm F2.8 | £329.99 |
| Sigma 105mm F2.8 EX | £379.99 |
| Sigma 10-20mm EX DC | £409.99 |
| Sigma 24-70mm F2.8 | £449.99 |
| Sigma 150-500mm OS | £739.99 |
| Sigma 50-500mm OS | £1098.99 |

### TAMRON

| | |
|---|---|
| Tamron 55-200mm | £139.99 |
| Tamron 70-300mm | £149.99 |
| Tamron 18-200mm | £259.99 |
| Tamron 17-50mm F2.8 | £379.99 |
| Tamron 90mm F2.8 | £399.99 |
| Tamron 10-24mm | £419.99 |
| Tamron 18-250mm | £429.99 |
| Tamron 18-270mm VC | £479.99 |
| Tamron 28-300mm VC | £519.99 |
| Tamron 70-200mm F2.8 | £639.99 |

### Nikon

| | |
|---|---|
| Nikon 18-55mm DX VR | £149.99 |
| Nikon 18-105mm DX VR | £199.99 |
| Nikon 55-200mm DX VR | £269.99 |
| Nikon 18-135mm DX | £329.99 |
| Nikon 70-300mm VR | £429.99 |
| Nikon 16-85mm DX VR | £469.99 |
| Nikon 18-200mm DX VR | £539.99 |
| Nikon 10.5mm DX | £549.99 |
| Nikon 12-24mm | £859.99 |
| Nikon 24-70mm F2.8 | £1249.99 |

### α

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|---|---|
| Sony 18-70mm | £139.99 |
| Sony 55-200mm | £199.99 |
| Sony 70-300mm | £199.99 |
| Sony 50mm 1.4 | £309.99 |
| Sony 18-200mm | £429.99 |
| Sony 50mm 2.8 | £444.99 |
| Sony 18-250mm | £479.99 |
| Sony 11-18mm | £489.99 |
| Sony 100mm 2.8 Macro | £534.99 |
| Sony 16-80mm T* | £579.99 |

### OLYMPUS

| | |
|---|---|
| Olympus 14-45mm | £169.99 |
| Olympus 35mm F2.8 | £199.99 |
| Olympus 25mm F2.8 | £199.99 |
| Olympus 40-150mm | £219.99 |
| Olympus 70-300mm ED | £339.99 |
| Olympus 18-180mm ED | £429.99 |
| Olympus 14-54mm F2.8 | £499.99 |
| Olympus 11-22mm F2.8 | £749.99 |
| Olympus 12-60mm F2.8 | £849.99 |
| Olympus 50-200mm F2.8 | £999.99 |

### PENTAX

| | |
|---|---|
| Pentax 18-55mm | £99.99 |
| Pentax 55-200mm | £149.99 |
| Pentax 55-300mm | £219.99 |
| Pentax 70mm F2.4 | £319.99 |
| Pentax 50mm F2.8 | £349.99 |
| Pentax 10-17mm | £359.99 |
| Pentax 16-50mm F2.8 | £469.99 |
| Pentax 12-24mm | £499.99 |
| Pentax 50-135mm F2.8 | £359.99 |
| Pentax 200mm F2.8 | £639.99 |

### Misc.

| | |
|---|---|
| Lenspen cleaning system | £39.99 |
| Lensbaby 2.0 | £79.99 |
| Digital King 0.7x W/A Lens | £69.99 |

## Tripods

| | |
|---|---|
| Slik L.Pod 200 | £29.99 |
| Slik Pro 600 | £49.99 |
| Slik Pro 330 DX | £89.99 |
| Slik 500 DX | £99.99 |
| Slik 330 EZ | £104.99 |
| Slik AMT | £179.99 |
| Slik 700 DX | £199.99 |
| Camlink CMP1 | £14.99 |
| Camlink TR-Pro 32B | £99.99 |
| Manfrotto Modo 785B | £49.99 |
| Manfrotto 190X DB | £99.99 |
| Manfrotto 055X DB | £129.99 |
| Optex T5 | £19.99 |
| Velbon SH 200R | £69.99 |
| GorillaPod | £19.99 |
| GorillaPod SLR | £29.99 |

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| Aero 30 | £25 | Adventure 9 | £70 | D Case 441 | £40 |
| Aero 40 | £25 | Adventure 10 | £120 | D Case 443 | £45 |
| Aero 45 | £30 | Expedition 4x | £60 | Sling 3N1-10 | £60 |
| System 2 | £30 | Expedition 5x | £70 | Sling 3N1-20 | £70 |
| System 3 | £35 | Expedition 6x | £95 | Sling 3N1-30 | £90 |
| System 6 | £55 | Expedition 7x | £130 | O Rucksack 465 | £50 |

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| | |
|---|---|
| Muffin 3000 | £40 |
| Muffin 4000 | £45 |
| Muffin 5500 | £55 |
| PrettyBoy 01 | £80 |
| Pyjama 02 | £120 |

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# test bench

Welcome to our test, reviews and advice section. Over the next few pages we will present this week's equipment tests, reader questions and technique pointers

**Our guarantee to you**

All our tests are conducted by people who understand the product area, as well as photography. We aim to discover any shortcomings, as well as finding those aspects that deserve praise. All our tests are thorough, honest and independent

## Litepanels MicroPro softlight £449.95

WITH tungsten lighting making way for more energy-efficient alternatives, LEDs are becoming increasingly popular. Litepanels MicroPro is a lightweight, portable softlight for photographers and videographers that has 96 white daylight-balanced (5600K) LEDs in its lighting unit. Unlike cheaper LED lighting, Litepanels claims only high-quality LEDs are used, ensuring they are perfectly colour balanced and flicker-free for video use. Orange filters are included to balance the colour of the Litepanels' light with tungsten lighting.


For photographers, these softlights are great for either placing on top of a camera's hotshoe instead of a flash or to use as a video light with the latest video-enabled DSLRs, such as the Nikon D90 and Canon EOS 5D Mark II.

The panel weighs 300g (without batteries) and measures 140x95x38mm, making it small and light enough for still-life photography or to light particular areas of a scene. It is powered using just six AA batteries, and has a dimmer switch to control the output smoothly from 0-100%. Using the recommended Lithium-Ion batteries, it can run at 100% for up to six hours, but expect only 1.5 hours from alkaline batteries. A mains power supply is an optional extra.

I was surprised how bright the light was from the panel, and using two of them opens up many creative lighting opportunities, particularly for still-life and macro images. However, for the same price as the MicroPro you can buy a more powerful two-head continuous lighting kit. **Richard Sibley**

● *For more information visit www.bogenimaging.co.uk or call 01293 583 300*

## Trek-Tech TrekPod Go! Pro £149.99

THE Trek-Tech TrekPod Go! Pro is a multipurpose piece of equipment that can be used as a monopod/hiking staff. It also has extendable legs so it can double up as a basic tripod. The lightweight (794g) TrekPod breaks down into sections, which may be stored in the supplied cloth case. Assembling the aluminium construction for the first time is straightforward and takes just a couple of minutes, though it is even quicker once you know how to do it. The four components fit into each other easily and are secured by tightening the locking nut. The tripod legs fold out by releasing the Velcro strips and are easily put back into shape.

When used as a monopod, the TrekPod's height is adjustable from 106.7cm to 158.8cm, while it adjusts between 99cm and 146cm in its tripod mode.

I tested the TrekPod Go! with an Olympus E-30 and 40-150mm f/3.5-4.5 lens attached, and found that fitting the camera to the MagMount Pro quick-release ball head was simple. While the TrekPod works well as a monopod, the tripod function is nowehere near as stable as a standard tripod, although it may be handy for moderately long exposures.

The Trek-Tech TrekPod Go! Pro is never going to replace a conventional tripod, yet its lightweight and multipurpose design makes it ideal for taking with you on your travels. However, at £149.99 it is quite expensive when compared to similar devices. **Nick O'Doherty**


● *For more information visit www.johnsons-photopia.co.uk or call 01782 753 300*

## Forthcoming tests

In the next few months AP hopes to run the following equipment through the most rigorous testing procedures in the industry...

| | | |
|---|---|---|
| Pentax | K-7 | Aug |
| Sigma | DPZ | Aug |
| Lastolite | Camera bracket | Aug |
| Fujifilm | FinePix F200EXR | Aug |
| Panasonic | Lumix DMC-FZ38 | Aug |


# DIY extension tube

Forget expensive macro accessories, says **Richard Sibley**, as you can make your own extension tube using items you may have lying around at home

THE aim of an extension tube is to position a lens further from a film or sensor, to create a wider spread of light. Imagine moving a projector so far away from a screen that only a fraction of the image is projected on to the screen. This is, in effect, what is happening when you add an extension tube, as only a small area of the total image in front of the lens is captured on the sensor or film.

Extension tubes can range from being very basic to those that allow autofocus, metering and aperture adjustment. It is fairly simple to make an extension tube, although you won't have any automated luxuries. You also need a lens that will allow you to have manual control of the aperture. One of the great things about the DIY design I am going to show you is that, with the appropriate rear lens cap, you can use it to fit any lens on your camera.

For more information on how to work out the magnification of your DIY extension tube, see the information on using a bellows unit on page 45.

## Before you start

You will need
- 2in diameter PVC pipe
- Rear lens cap
- Camera body cap
- Epoxy resin
- Sandpaper
- Craft knife
- Hacksaw
- Superglue
- Black cloth
- Drill

Skill required ●●●○○
Time to complete **40 minutes**
Cost **Around £5**

**1** Take your 2in diameter PVC pipe, and using a hacksaw cut it to the desired length of your extension tube. I have chosen a length of 5cm (around 2in). Use a mitre box to guarantee a 90° cut.

**2** Sand the end of the pipe you have just cut to remove any loose or jagged areas. Also, use the sandpaper to slightly roughen the exterior of the pipe as this will help the epoxy resin adhere to it.

**3** Cut a piece of black cloth, preferably velvet or flocking material, the same size as the inside of the tube (in this case 5x15cm). Make sure you choose a material that won't shed and leave fluff inside your camera.

**4** I used a black velvet-like material that was sticky on one side. You may be able to find a similar fabric from a craft shop. If not, use glue or double-sided tape to stick the fabric to the inside of the tube to help prevent light reflecting inside.

**5** Cut the centres out of both a rear lens cap and body cap appropriate to your camera. This is best achieved using either a rotary tool (pictured) or a drill and a craft knife. Again, sand any rough edges and remove any spurs.


**6** Using the epoxy resin, glue both the body cap and rear lens cap to either end of the tube. Make sure the caps go the correct way round, so that the finished tube can be placed on the camera and a lens can be attached to the other end.

**7** Leave the resin to set. If possible, try to keep it carefully clamped together. It may take a few hours, or even overnight, before the resin sets securely enough for the extension tube to be used. Make sure you remove any dust and debris before attaching to a camera.

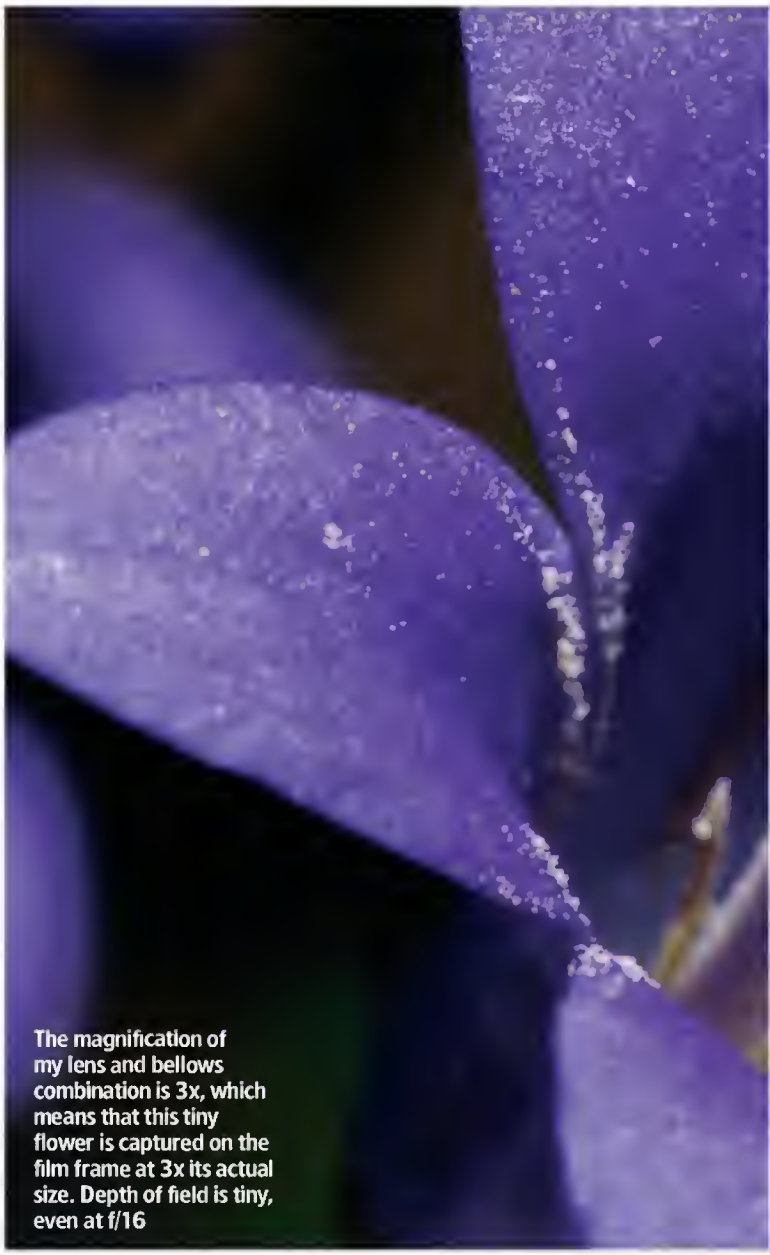
**The DIY extension tube allowed me to photograph the fine detail on these flower seeds**

# Macro challenge

To prove macro photography is enjoyable whatever SLR you own, AP's technical team each used a different system. Can an old manual film setup really compete with a modern DSLR, and which is easier to use?

ALL the talk of magnification factors, extension lengths and exposure compensation, plus the lighting challenges, can make macro photography seem complicated, but it is also enjoyable and the results can be rewarding. Also, while there's plenty of specialist kit available for the real macro enthusiasts, getting closer to your subject can be as simple as fitting a reversing ring on your lens and camera.

To demonstrate the options available for macro photography, AP's technical team put together three very different setups and challenged each other to get the best images. Barney Britton opted for full manual control with a Nikon F3 film camera, a set of bellows and a 50mm f/1.4 macro lens, while at the other extreme Angela Nicholson used a modern Live View-enabled DSLR with a specialist macro lighting arrangement, automatic extension tube and remote control via a laptop computer. Meanwhile, the addition of a reversing ring enabled Richard Sibley to produce macro images using a Sony Alpha 700 and a 50mm f/1.8 non-macro lens. Read on to find out who made the best choice and took the best shots.



**The magnification of my lens and bellows combination is 3x, which means that this tiny flower is captured on the film frame at 3x its actual size. Depth of field is tiny, even at f/16**

**With this manual setup, the illumination is provided by an external flashgun, triggered using a simple PC cord**

## Manual macro

Macro photography needn't be expensive. **Barney Britton's** kit may be old, and lack some of the bells and whistles of more modern equipment, but it all works. For his image he's gone back to basics, with manual metering, manual flash, manual focusing and shooting on film

**Nikon F3** (£200)*
**Nikon 85mm f/2 lens** (£100)*
**Nikon Speedlight SB-24** (£100)*
**Bellows** (£35)*
**PC flash sync cord** (£15)

*TYPICAL USED PRICE

THE system I used is based around a Nikon F3 film SLR, loaded with Fujichrome Provia 100F. My lens is a manual-focus Nikkor 85mm f/2, bought second-hand, and mounted on a bellows attachment. The bellows then attaches directly to a tripod, with a sturdy hydrostatic head. I used flash to provide my main source of illumination, specifically a Nikon Speedlight SB-24 of 1980s vintage, triggered by a PC cord from the camera. Everything apart from the tripod, head and PC cord, is at least 20 years old.

I didn't have the benefit of a modern metering system with this setup, so I calculated the correct exposure using the guide number of the flash in manual mode, before compensating this reading using the chart on page 45 to take account of the bellows.

### Setting up

At 3x magnification I soon found that simply framing a shot was very difficult. The slightest wobble of the camera (caused, for instance, by winding the film) makes the viewfinder image shake like mad, and even very minor adjustments to the position of the camera or lens can cause everything to go out of focus. For this reason, a sturdy tripod and head are essential.

Another problem I had not fully appreciated before I started is that using bellows between the camera and lens cuts out a lot of light, which means that the viewfinder of my F3

## Getting the shot

My exposure calculations give a recommended aperture of f/64, but according to the exposure correction chart (see bottom of this page), I needed to increase exposure by about 4EV from the meter's recommendation to account for the light cut out by the bellows. This gave an adjusted aperture of f/16. To be on the safe side, I bracketed my exposures by adjusting the aperture and flash-to-subject distance.

## Verdict

I'm really happy with the shots I got using this basic setup, and although there was an element of uncertainly in the exposures that I'm not used to with a digital system, I'm pleased to see that my exposure calculations were correct! Ultimately, the only thing that I found myself wanting was a Live View system, which would have greatly aided accurate focusing when I was setting up the image.

darkens considerably, and becomes hard to focus even when the lens is used 'wide open' at f/2. If I'd had a DSLR with Live View this would not be such a problem, but I didn't so I resorted to a trusty black cloth over my head to cut out extraneous light.

I might have focused and composed my shot with the lens at f/2 to keep the viewfinder image as bright as possible, but for maximum depth of field I knew I wanted to take the picture at a much smaller aperture. To establish the correct aperture for my flash power and subject distance, I had to get my calculator out.

## Correct exposure

To calculate flash exposure manually, you divide the guide number of the flash (in metres at ISO 100) by the camera to subject distance (also in metres). My SB-24 has a guide number of 36, but I knew that this would be overkill at such close range so I was using it at half power, making the guide number 18. The front element of my lens was roughly 260mm from the film plane (the film plane is marked with a line through a circle sign on the top-plate of most SLRs) and 18/0.26 = 69, so I have a recommended aperture of f/69, which I rounded to a 'full stop' of f/64. In order to accurately compensate the exposure to take account of the light cut out by the bellows, I needed to know the magnification of my lens and bellows combination.

This is established using the equation: m = l/f (where m = magnification, l = the length of the bellows extension from film plane to lens front element in millimetres, and f = the focal length of the lens in millimetres). I used an 85mm lens, so the magnification is 260/85, which equals 3x.

## Exposure compensation for bellows

**When you use bellows or extension tubes, less light reaches the film or sensor of your camera. Cameras with built-in TTL (through-the-lens) ambient and flash metering systems are able to take account of the difference, but if you are using a fully manual camera, manual flash, or you just want to make absolutely sure of the exposure, you can use the exposure compensation table below, in combination with an external light meter or (as I am doing in this exercise) manual flash exposure calculation.**

**First you need to calculate the magnification of your lens and bellows combination, as explained in 'Correct Exposure'. Then simply read down to find the exposure compensation required.**

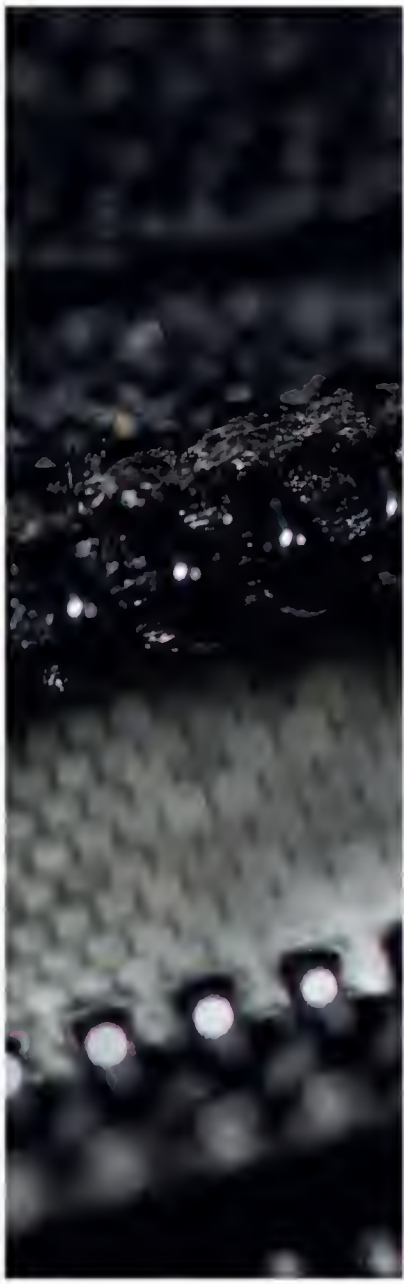
| Magnification | 0.2 | 0.4 | 0.6 | 0.8 | 1.0 | 1.2 | 1.4 | 1.6 | 1.8 | 2.0 | 2.2 | 2.4 | 2.6 | 2.8 | 3.0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Increase exposure by (stops) | 1/2 | 1 | 1 1/4 | 1 3/4 | 2 | 2 1/4 | 2 1/2 | 2 3/4 | 3 | 3 1/4 | 3 1/4 | 3 1/2 | 3 3/4 | 3 3/4 | 4 |

# Remote control macro

Controlling a camera via a computer may sound expensive, high-tech and complicated, but as **Angela Nicholson** demonstrates, it's actually quite straightforward, often available for free and very helpful with macro photography

**Canon EOS 5D Mark II** (£2,690)
**Canon EF 100mm f/2.8 Macro USM** (£609.99)
**Canon extension tube EF25 II** (£149.99)
**Canon MT-24EX Twin Lite** (£1039.99)
**Manfrotto 190XB tripod** (£109.95)
**Manfrotto 804RC2 tripod head** (£64.95)
**Manfrotto 454 Micro positioning plate** (£74.95)

**A low angle and protruding micropositioning plate made peering through the viewfinder uncomfortable, with laptop control also easier on the knees**



FOR many people, mentioning a computerised remote-control camera system triggers one of two thoughts – a room filled with TV screens with an ever-vigilant security guard scanning views of a high street on the look-out for terrorists setting up tripods, or an incredibly complex setup for a very technically minded photographer. While the first scenario may or may not exist, modern software means that computerised control of a camera is now firmly within the grasp of the average enthusiast photographer.

Ever since the introduction of Live View technology we have been debating its relevance and benefits, with some photographers still eschewing it. However, there is one area where few photographers question its merit – macro photography. Even those subjects that can be placed on a table invariably require the camera to be positioned at an angle that makes it neck-achingly awkward to peer through the viewfinder long enough to be entirely happy with the composition. Being able to see the composition on the camera monitor makes life much easier, especially if it is on an articulated hinge. In addition, the on-screen image can be magnified so you can be absolutely sure that the focus is exactly spot-on where it needs to be.

## Going remote

Although the screen on the back of a camera can provide a clear view of a scene, even the largest models are still only around 3in (7.5cm) in diagonal. They can also suffer from reflections and a limited angle of view or foreshortening of the image when seen from an extreme angle. However, the USB port of many modern Live View-enabled DSLRs allows the Live View feed to be directed to a computer so that a large monitor can be used to assess the scene. Thus, you can sit comfortably in a chair looking at a full-size computer monitor and adjust the camera exposure and focus point. Of course, laptop users can set up the system wherever they want.

Perhaps the most significant advantage of controlling a camera remotely is that it avoids having to touch it to make settings adjustments, so you don't have to wait for the camera to stop wobbling between shots. This is particularly useful for macro photography.

For many enthusiast photographers this high-tech luxury won't cost them an extra penny as Canon provides the necessary software (EOS Utility) with all its current DSLRs and Sony supplies its Remote Camera Control application with both the Alpha 700 and 900. Nikon and Olympus users also have the option to use propnetary software, but they will have to pay £145 for Camera Control Pro 2 and €99 (around £85) for Olympus Studio 2 respectively. Alternatively, Breeze Systems (www.breezesys.com) offers a third-party option for a variety of DSLR and compact cameras for $75-$95 (around £45-£58, and free trials are available for download).

I used a Canon EOS 5D Mark II for this exercise and once all the camera software was installed on my Panasonic Toughbook, connecting the powered-up camera to the laptop via the supplied USB cable is all that is needed to activate EOS Utility. There's no tuning of a signal or channel searching, and merely clicking on the Live View option shows the through-the-lens (TTL) image on the computer screen.

## The setup

As I opted for the high-tech approach, I used the full-frame Canon EOS 5D Mark II with a Canon EF 100mm f/2.8 USM macro lens mounted on a Canon EF25mm II extension tube. The 100mm focal length enables a comfortable working distance so you don't have to be right on top of a subject, but with the 25mm extension I was able to get a bit closer and go beyond the usual 1:1 magnification. As the extension tube maintains the electrical connections between the camera and lens, full exposure control and TTL metering are possible. No exposure calculations for me!

Often the small gap between the subject and the front element of the lens can make it difficult to get light on to very close subjects, but I used Canon's MT-24EX Macro Twin Lite flash (street price around £750) which fits on the end of a lens to provide illumination just where it is needed. This device has two small flash units that can be moved around the ring at the end of the lens, and both can be tilted independently so the illumination reaches the subject at the right angle. Cords link the flash units to the controller, which sits in the camera hotshoe and allows full TTL metering. It's not possible to control the flash via EOS Utility, so the flash settings must be selected using the buttons and LCD screen on the controller. All the usual settings we'd expect from a modern flashgun are available, but possibly the most important aspect for macro photography is the facility to vary the output between the two units. This means the light output can be even, or for greater modelling the balance can be shifted so one light emits more illumination than the other with ratios of 1:1, 1:2, 1:4 and 1:8 being possible.

Even very small camera movements can have a massive impact on the composition of a macro image, and it can be challenging to position a large camera and tripod arrangement

**I restricted the depth of field to inject impact by using an aperture of f/5.6**

exactly where it's needed. However, I was able to address this problem to an extent by using a Manfrotto 454 micro-positioning plate. This device is attached to the camera via the tripod bush and then the tripod head's quick-release plate is used to mount it on the tripod. Turning the threaded rod in the positioning unit draws the camera along the plate's length and enables very precise placement. Even greater precision is possible by using two plates at right angles.

## The shots

Some of my favourite macro shots are of everyday household objects, because the magnification makes them look much more interesting and dramatic, so I decided to use these as my subjects. I soon settled on the zip of my ThinkTank rucksack. With the pack propped up against a wall, I found a convenient zip-pull and positioned the Canon EOS 5D Mark II on my tripod and connected the camera to my laptop. With the laptop right next to the camera I found it was surprisingly easy to position the camera so the zipper was in the right part of the image frame when looking at the laptop. However, with a desktop computer monitor, or when the laptop needs to be further away from the camera, it's better to use the camera screen to view and decide the composition.

Once the camera was at the correct angle and the right distance from the subject, I clicked on the AF control in the EOS Utility camera control palette and got the scene in sharp focus. With Live AF mode selected, the AF point can be moved by using the computer mouse to drag it to the correct part of the on-screen image. Changing the EOS 5D Mark II's Quick AF option using the software, however, allows one of the camera's nine AF points to be selected (by clicking on them) and the Live View feed is interrupted while focusing takes place. Although the AF system did its job well, it is very easy to tweak the focus manually and I moved the focus point backwards and forwards a few times to assess the impact on the shot.

While EOS Utility has a depth of field preview control, with small apertures the on-screen image suffers from the same problem as the viewfinder view – it becomes dark. This occurs regardless of whether the Exposure Simulation option is selected in the preferences or not. As yet, there is no way of applying extra gain to brighten the image and make it easier to assess sharpness. However, after each shot is taken it can be viewed on screen within a couple of seconds, it didn't take me long to decide that an aperture of f/5.6 gave me the depth of field I was looking for.

After experimenting, I found a flash output ratio of 8:1 worked well for my shot of a zip. The light to the left of the subject (unit A) produced 8x or 3EV more light than the right one (unit B).

## Verdict

It's hard to imagine that macro photography could be any easier than with this fully automated system. Setting the correct exposure is simple thanks to the histogram view when the display is set to Exposure Simulation mode, and images can be scrutinised both before and almost immediately after capture. You might lose some of the excitement of shooting on film and wondering if you have got the result you hope for, but then you have the comfort of getting the shots right first time.

# Reversed lens macro

Using the kind of DSLR kit that most enthusiasts own, all **Richard Sibley** needed to add was a simple reversing ring for his attempt at macro photography

**Sony Alpha 700** (£669.99)
**Sony to T2 mount and T2 to 52mm filter thread adapter** (£16.99 + £16.49)
**Sony A mount to 52mm thread** (£23.50)
**Nikon 50mm f/1.8 lens** (£129.99)
**Sony HVL F58AM flashgun** (£450)
**Tripod** (£279.95)

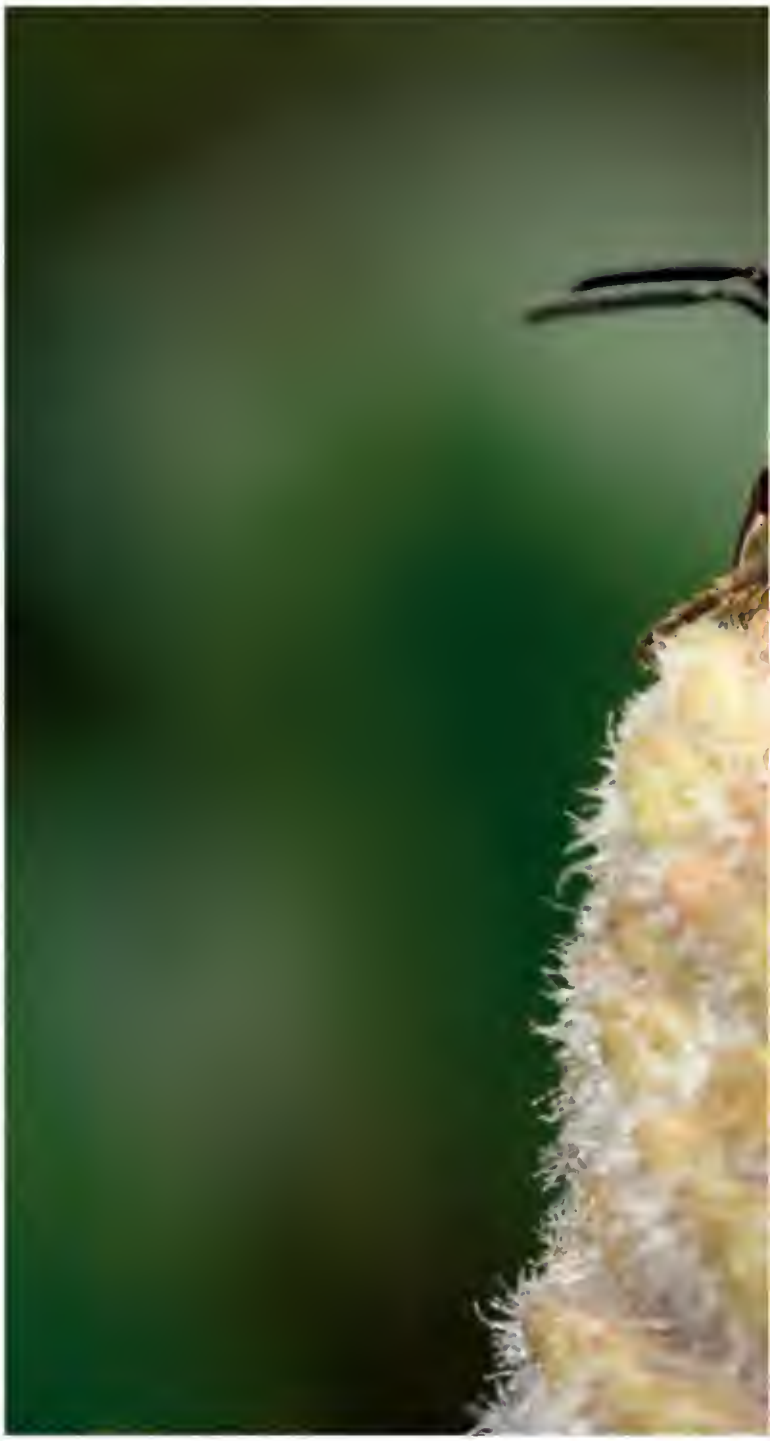
**With such a shallow depth of field, a tripod is essential to maintain accurate focus by reducing any front and back movement**

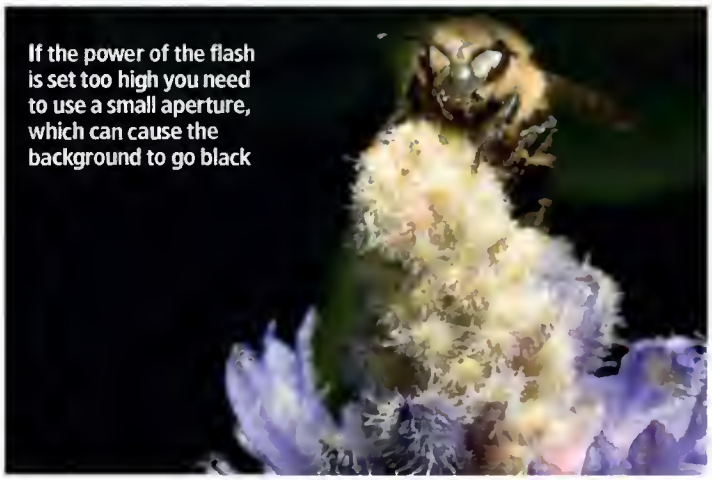
FOR my part of our macro challenge I used a Sony Alpha 700, which is similar to the kind of DSLR that many enthusiasts will own. To obtain macro magnification I used a reversing ring. Reversing rings are simple metal rings that have a camera mount fitting on one side and a screw thread on the other. They allow a lens to be mounted the wrong way round on a camera, via the filter thread at the end of the lens. In effect, you have 'reversed' how the lens fits on the camera, hence the name 'reversing ring'. I actually couldn't find a Sony reversing ring in stock at the time of taking the photographs, so instead used a Sony A mount to T2 mount adapter and then a T2 mount to 52mm thread adapter, which has the same effect.

One of the downsides of most reversing rings is that they contain no mechanical or electronic connections, so you have to focus manually and, depending on the camera, you may lose metering. Also, with no mechanical coupling, you need a lens that allows the aperture to be adjusted manually. In my case I used a Nikon 50mm f/1.8 AF-D lens, for the simple reason that it has a manually adjustable aperture and also happens to have a 52mm filter thread, which matches that on my reversing ring. In fact, I could use any lens with a 52mm filter thread that allows manual aperture adjustment, which opens up a huge range of different options.

The Sony Alpha 700 is a good choice of DSLR as it can be set to fire the shutter regardless of whether a lens is attached (which the camera thinks is the case if you have a reversing ring attached) and it also still meters in aperture priority mode.

One of the advantages of the Alpha 700 is its wireless flash capability. As macro photography often requires getting very close to the subject, light from a flash placed on a camera's hotshoe will not illuminate the subject. Very keen macro photographers use specialist macro flashguns or ringflashes to counter this. However, this equipment can be very expensive and I decided to trigger a flashgun wirelessly to illuminate the subject.





**If the power of the flash is set too high you need to use a small aperture, which can cause the background to go black**

## Setting up

Reversing the 50mm lens gave me a magnification of almost 1:1 and a minimum focusing distance of around 7cm. While this distance is not sufficient for tiny insects such as ants, it is perfectly suitable for butterflies, spiders and larger insects as it allows you to include some of the surroundings in the image.

I set the camera on a tripod, as any slight backward or forward movement can cause a substantial shift in the focal point. With plants and spider webs all moving very easily, even in a light wind, it is important to use a fast shutter speed, especially given the speed at which some insects move.

A large aperture can severely reduce the depth of field, so using a large aperture to let in light is not always suitable. A high sensitivity setting is useful, but it can introduce image noise, so to keep as fast a shutter speed as possible and still maintain depth of field and image quality, as I mentioned earlier, I used a handheld flashgun which I triggered wirelessly.

**Getting a precise point of focus can be very difficult, and exact timing, as well as a lot of patience, is vital**

## The images

Actually getting an image was more difficult than I anticipated. The insects move quickly and there is such shallow depth of field that you need to time shots very carefully.

Spiders are relatively easy prey as they spend much of their time waiting on webs, but flies are extremely difficult. I opted to photograph bees. My approach was to set the camera up near some flowers and focus on a point at the top of a specific flower. It was then a case of waiting patiently for a honeybee or two to land on the flower and then snap away.

It took some time to get the image I wanted as it was difficult to get the precise focus that was required. I tried to anticipate where a bee would land and focus on this point. A micro-positioning plate would have been extremely useful, as it would have allowed me to fine-tune the position of the camera, making focusing more accurate.

Using the flash was also interesting. In the end I got the best results using the Alpha 700's pop-up flash. As I was around 7cm away, there was just enough light from the flash to create a catchlight in the bees' eyes.

I found that in the bright sunlight outdoors I could only get the flash to fire from the correct angle when it was very close to the subject. Though I tried using both aperture priority and manual control on the flashgun, I could not reduce the flash exposure enough to balance the subject and background exposure. The small aperture and faster exposure made the background turn almost black as the flash light falls off quickly. For a more realistic effect it is important to make sure that either the background is also lit or that the shutter speed allows some ambient light to be captured. It is a fine balance between selecting a shutter speed that is slow enough to expose a background, and not having a slight blur from the movement of the insect or any plants in the scene.

## Verdict

Reversing rings are an inexpensive way of getting started in macro photography, and I was pleased with the results I achieved. For those people who can't afford to buy an additional lens for macro images, I recommend trying reversing rings, provided you have a lens with manual aperture control. If you don't, then auto extension tubes would be the preferable, though more expensive, option.

# Q&A

## Price of a classic

A Leica IIIf fitted with Voigtländer lens

**Alan Davies asks Having just become the proud owner of a Leica IIIf with Leitz Elmar f/3.5 50mm lens, could you tell me how much such a camera might cost were it possible to buy it new today? According to the serial number, the camera was manufactured in 1951. I have searched for 1950s advertisements that might indicate what new Leica IIIf prices were like in the UK around that time, but could only find prices for second-hand Leica equipment. A friend suggested that my lack of success may have been due to certain UK import restrictions on German manufactured goods after 1945, and that perhaps the purchase of new Leica equipment in the UK was not possible at that time. Is this correct?**

**Ivor Matanle replies** Your friend is broadly right. Post-war foreign currency regulations and related import prohibitions made it impossible for amateur photographers in the UK to buy new cameras from other countries if the ex-factory price of the camera (that is, the price the importer or dealer paid, excluding freight charges) was more than a very low figure – from memory I think this was £5. Only professional photographers, who could prove that they needed an expensive new camera for their work, could obtain an import licence to buy a Leica or Rolleiflex. This rule was the reason for the rise of the British camera industry during the late 1940s and early to mid-1950s, resulting in cameras like the Reid III (a virtual clone of a Leica IIIb), the Ilford Witness (which took Leica lenses), the Periflex (a reflex focusing camera that took Leica lenses) and the MPP Microcord and Microflex, respectively near clones of the Rolleicord and Rolleiflex of the time. Import restrictions were gradually relaxed in the late 1950s, so it became possible for amateurs to buy new cameras like the Retina IIc and IIIc, the Exakta Varex and the Rolleicord. They did not end until 1959/60.

After the Second World War, second-hand Leica prices were very high and few could afford them. In April 1946, RG Lewis advertised in *Miniature Camera Magazine* a Leica IIIa with f/2 Summar, then about ten years old, for £103 17s. This equates to about £2,650 today, which is a huge sum for a second-hand camera.

I have not been able to find a new price for a Leica IIIf for you in the time available, but to give you an idea, a new Leica M3 with f/2 Summicron was advertised by Wallace Heaton in October 1962 at just under £183. At that time, as an advertising copywriter aged 21, I was earning about £700 per year and was considered well paid, so you could approximate £183 then as being equivalent to about £5,000 today. The IIIf ten years earlier would probably have been in the same general area of price.

## Hard lines to take

**Mark Pennock asks Earlier this year, I bought a Fujifilm FinePix S2000HD camera. However, when I take photos there are lines running down the views on the rear LCD screen and electronic viewfinder. It looks like a barcode effect. It occurs when I hold the shutter release button halfway down, and disappears when I release it. Although the images it captures are fine, it is annoying not being able to see clearly the images I want to take. I returned the camera to Fujifilm for repair, but after testing, the company was unable to find a defect, merely saying that this is how the CCD captures light and that the problem is common with all S2000HD cameras. Can you help?**

**Richard Sibley replies** Unfortunately, this can be a problem with all compact cameras, although it does seem severe from the images you have supplied. An internet search reveals that it is a fairly common issue with the Fujifilm S2000HD. In fact, Fujifilm USA has the following information on its website: 'This symptom (CCD smear) is not a camera defect. When the camera receives strong incident light on the focal plane, the image signal temporally overflows inside the image capture device (CCD), and appears as vertical lines. However, when the shutter is released, the amount of the light coming into the image capture device is controlled by the aperture and shutter speed; therefore the recorded image does not show vertical stripes. This problem is usually noticeable during framing or movie mode.'

Fujifilm UK recommends that you load the current firmware on to the camera. The firmware upgrade can be found here www.fujifilm.com/products/digital/download/s2000hd/fupd.html.

## Left baffled by test

**Tony Goode writes I was looking forward to your review of the Olympus Pen E-P1 (AP 18 July) as I thought this camera could be a good lightweight alternative to a DSLR. I have to say I feel a little let down! I assume the tests were done using a standard zoom lens, but there is no mention of this. I am no further forward in deciding between the merits of the standard zoom and the 17mm lens in combination with its own viewfinder.**

**Barney Britton replies** I used a range of lenses on the Olympus Pen

### FAQ
Frequently Asked Question

When buying a new flashgun, it is important to look at its guide number (GN). This number indicates the power of the flash, but many photographers don't understand how the number is calculated and what it represents.

The GN is the maximum distance that a

### Do you have a photographic question that you would like answered?

Be it about modern technology, vintage equipment, photographic science or help with technique – here at AP we have the team that can help you.

Simply send your questions to: apanswers@ipcmedia.com or by post to: AP Answers, Amateur Photographer Magazine, IPC Media, Blue Fin Building, 110 Southwark Street, London SE1 0SU.

# FROM THE AP FORUM

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**Ask your question online**
amateurphotographer.co.uk

## Right-angled lens adapter

**fleetflatfoot asks** **I'm not sure if there are ethical issues about this nowadays, but back in analogue times, as a field ethnographer in rural Africa, I used a screw-on tube with a mirror set diagonally inside, to allow a 90° angle for non-intrusive shooting. Is this type of lens still available and does it require any release forms?**

**Rhys replies** I wouldn't bother using one. Someone spotting you with one of those will probably think you are a pervert or up to no good. The more open you are, the less folk look at you. And if you start sneaking around, the police will no doubt start to take an interest.

**Fen replies** They are called periscope lenses and are very hard to get nowadays – I don't think anyone actually makes them. Your best bet would be to try eBay or a camera fair. Honestly, though, I can't see the point of them. I've got one myself and it sits in my camera cupboard.

As for release forms, it would depend on exactly what you are going to be using the photos for.

**mediaman replies** I have a Jessops Candid Angle lens attachment, which I bought about ten years ago. It is still in its case, boxed and unused. It works via a series 7 adapter. I would assume these lens attachments work best with a standard/medium telephoto lens

I have seen other makes with the same type of fitting method, for sale second-hand, over the years, in camera shop windows.

E-P1, including, but not exclusively limited to both of the bundled lens options. The images that show the camera's resolution performance were taken on our standard test lens, a Sigma 105mm f/2.8 EX DG macro, using a Four Thirds-Micro Four Thirds adapter from Panasonic. The adapter contains no glass, so the optical quality is not compromised.

Of the two current 'kit' options available with the E-P1 – the 14-42mm f/3.5-5.6 and the 17mm f/2.8 – neither is a particularly stellar performer, but the advantages of the lenses are their small size and low weight. The 17mm f/2.8, especially, is great fun to use on the camera, even though it isn't the sharpest optic in the Olympus range. I also used the Panasonic Micro Four Thirds 7-14mm and the Olympus 12-60mm with the E-P1. The latter, especially, is a superb lens, and it makes the most of the E-P1's very capable sensor. The disadvantages, however, are obvious – it is heavy, bulky and very expensive compared to the camera. So much so, in fact, that it is a poor companion for the pocket-sized Pen E-P1.

We hope to test the Olympus 14-42mm f/3.5-5.6 lens in AP in the near future.

subject can be located from the flash and still be illuminated, at an aperture of f/1 and (unless otherwise specified) at an ISO sensitivity setting of ISO 100.

Given that the maximum power output of the flash is a constant, its GN can be used to calculate the aperture needed to correctly expose a subject at any given distance.

Aperture = GN/distance from subject. So, for example, take the Canon Speedlite 580EX II, which has a GN of 58m at ISO 100. Using the equation aperture = GN/distance, a subject that is 14.5m away from a Canon Speedlite 580EX II will be correctly exposed at an aperture of f/4 at ISO 100.

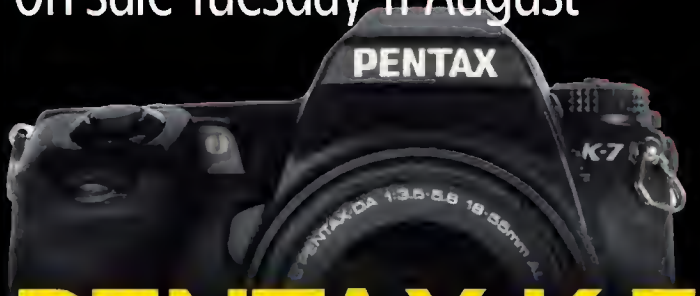
Until recently, most flashguns had an f-number calculator on the back. This allows you to select the ISO setting and distance from the subject, and it would then tell you the correct aperture.

While using an exposure calculator may seem somewhat redundant in an age of sophisticated TTL flash systems, knowing the exact relationship between the flash output and distance can be very useful. See pages 44-45 of this issue for an example of this technique in action.

Richard Sibley

# Next week

## On sale Tuesday 11 August

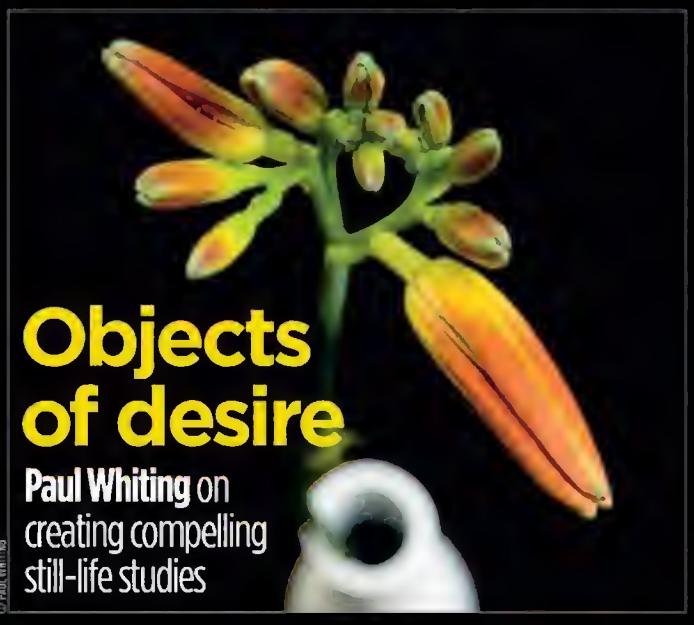



## PENTAX K-7

**Angela Nicholson** tests Pentax's most advanced digital SLR to date – the 14-million-pixel **K-7**


## NIKON D300s

**Barney Britton** takes a look at the latest DSLR from Nikon – the 12.3MP, HD video-equipped **D300s**



## Objects of desire

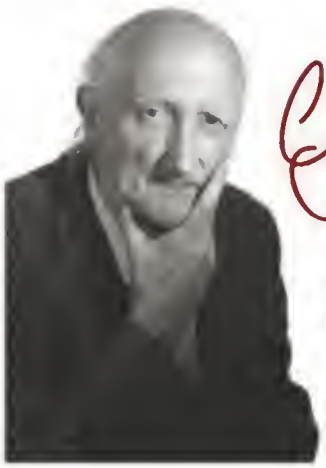
**Paul Whiting** on creating compelling still-life studies

## Seeing infrared

AP reader **Mike Harvey-Penton** explains how a simple DSLR conversion transformed his infrared photography

## Iconic cameras

**Ivor Matanle** looks at the Alpa 9d – a 35mm SLR from the 1960s now widely sought after



*Geoffrey Crawley explains...*

# Macro Photography

WE USE THE TERM **MACRO PHOTOGRAPHY** WHEN TAKING CLOSE-UP IMAGES, BUT ARE WE APPLYING IT CORRECTLY?

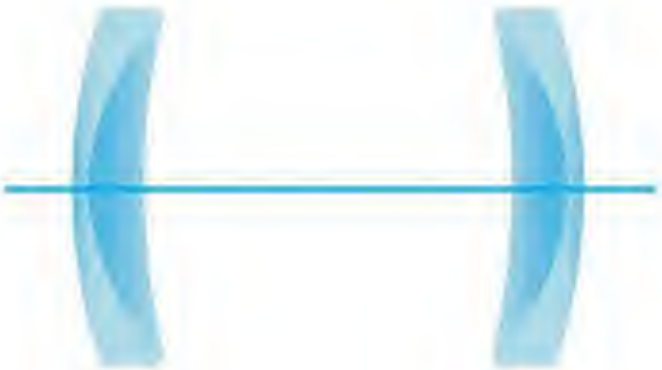
TUCKED into the exposure mode dial or perhaps in the subject selection bar in a digital camera menu, there is often a flower symbol. If you own an older Canon lens it may be found on the barrel, together with a number in metres or feet. The flower is the international symbol for a close-up and the number is the nearest focus distance of the lens. The measurement is that from the film or sensor image plane in the camera, not from the front rim of the lens, to the subject. The image plane is usually marked on the left of the top plate, but is not always present on digital cameras, and it only becomes important in technical work. When set to this close-up mode, the tendency is for the camera to use a lens aperture to give shallow depth of field. This isolates the subject against a diffuse background since depth of field is limited in close-up anyway.

Lenses and kit designed for close working are often called macro, as in a macro zoom. However, the purist will point out that macro is really applied when the size of a subject's image is bigger than the subject, up to 10x its size. In photography, any lens that can focus closer than you might expect tends to be called macro. The label is often attached to zoom lenses, which are called zoom macro or macro zoom lenses. A monofocal (or fixed focal length) lens that has the macro label will usually focus close enough for the subject and its image to be the same size. Yet zoom lenses fall short of that, as they focus mostly at about half size. The size ratio between subject and image is termed the reproduction, or repro, scale, or given as a magnification factor. Same size is a 1:1 repro scale, for example, and half size is 1:2. Just put the first figure over the second to give the fraction of image to subject size. Rated as a magnification, 1:1 is 1x and 1:2 is 0.5x. For most close-ups, the actual repro scale or 'x factor' is far less important than the composition of the picture.

The reason zoom lenses do not focus down to 1:1 is that the optical corrections governing image quality are difficult to maintain when close in while at the same time maintaining them over the range of focal lengths. In fact, they are rarely free of one error when at close quarters, which is curvilinear or drawing distortion. This is the bending or bowing of straight lines in the subject. It means that these lenses are not good at taking pictures of buildings or for copying documents, drawings and pictures. However, this leaves the whole of the natural world wide open for taking subjects, both living and still. A macro telephoto zoom at its top focal length is ideal for taking nature pictures. It allows a close-up to be taken from a distance at which a live subject won't become aware of you.

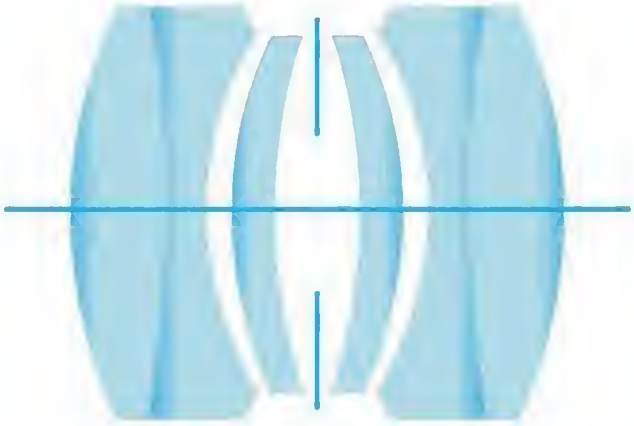
Once the photographer is hooked on close-ups, it is time to consider upgrading to a macro monofocal lens able to focus to 1:1. This opens up a further and fascinating field of opportunity in nature photography. Also, since these lenses are well corrected for distortion, architecture and other linear subjects will be accurately rendered when shooting at middle and far distances, at which it remains well corrected. The copying of documents, old photographs and so on can also be undertaken. Selective enlargement of a section of a shot taken at, say, 1:2 will give the impression of one at 1:1, but the quality of colour and detail will not be as good as from a 1:1 lens. A plus point of close-up work is the fact a photographer has time to consider the lighting, camera angle and composition. Such freedom is at its greatest in table-top photography. This is the equivalent of still life in painting – objects are chosen and arranged to satisfy the photographer's creative skill. Overall, close-up photography is a fascinating genre which, once tried, usually becomes a lifetime pursuit.

## 1866 Rapid Rectilinear



Thomas Dallmeyer realised a symmetrical construction gave good curvilinear and spherical aberration corrections, hence his Rapid Rectilinear of 1866

## 1920 Plasmat



Paul Rudolph's 1920 Plasmat – the final evolution of the perfectly symmetrical design. His 1892 Protar was the first to use the new Jena glasses


The flower or close-up mode symbol, and the image plane symbol on a Canon EOS 5


# The science

MACRO is the Greek word for 'big' and has come to mean any lens that can focus down to a close-up of a subject. In optics the term has a very specific meaning. In general photography, we image the subject much smaller than its actual size. You can fit a cathedral on the APS-C format using the right lens from the right distance. The closer the subject to the camera, the larger its image. Eventually the image is the same size as the subject. This is called life-size or 1:1. The repro scale states the relative sizes of image and subject, so a scale of 1:2 means each unit of dimension in the image, say, 1cm, covers twice that unit in the subject: 2cm. Therefore the image is half life-size. Sometimes the scale is given as a magnification, so 1:2 becomes 0.5x, although it is actually a reduction.

## Macro and micro

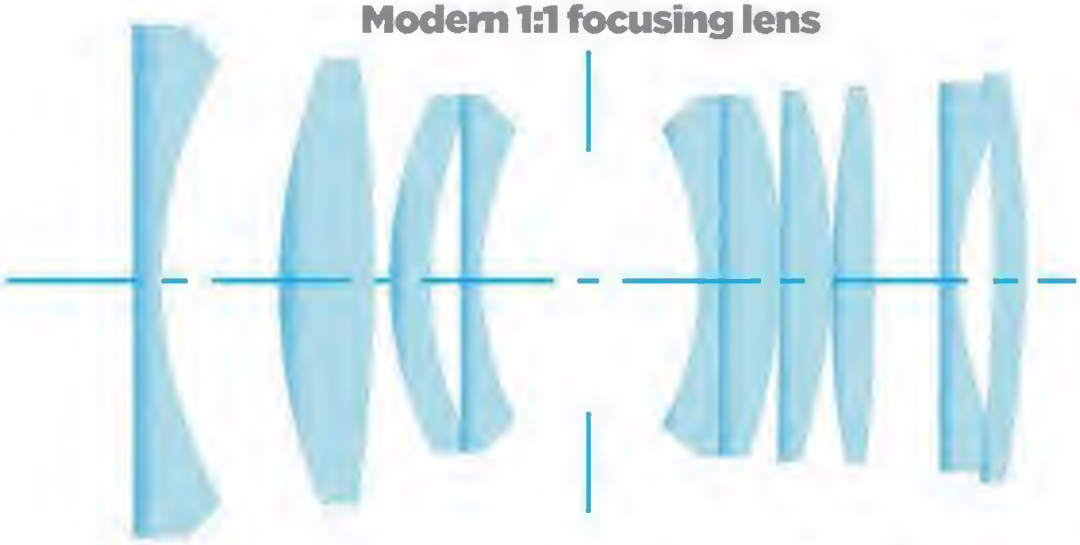
All pictures taken at distances from infinity to 1:1 produce images smaller than life size. In optics they are thus termed micro ('small' in Greek). Again, in optical terms, macro begins to apply when the image is larger than the subject. On the repro scale, 2:1 means the image of the subject is twice its size (2:1 or 2x magnification). The macro region extends from 1:1 to about 10:1 or 10x magnification, and is termed macro photography. Achieving greater magnification needs the camera to photograph through a microscope, which is the realm of photo micrography. There is one other term to confuse the issue: microphotography. As we've seen, most exposures are of subjects imaged smaller than life-size so, strictly, they come under 'microphotography'. Yet the term is used solely for the reduction of documents, drawings and similar material to a fraction of their original size. Microphotography was used for archiving on microfilm, but its main use is in the photofabrication of printed circuits, large-scale integration and transistors. The special lenses, corrected for a narrow spectral brand, can give 1:2000-4000 reductions, which is 1 metre reduced to 0.5-0.25mm.

In the strictest sense of the term, there are few true macro lenses on sale to photographers. Most are the special monofocal lenses that can focus to 1:1. The one firm that correctly terms its 1:1 focusing lenses is Nikon with its Micro Nikkors. Many zooms have the 'macro' designation but they do not focus to anywhere near life-size, or 1:1, but justify the claim by being able to focus to a shorter distance than would normally be expected for the focal length span. Early closer focusing zoom lenses only did so at the maximum focal length, which simplified the corrections. The longer a zoom lens's focal length, the further away is its minimum focus distance. This is because it becomes more difficult to maintain corrections. Also, the increase in overall length of the lens extension or internal group movement brings unacceptable growth in size and weight. Repro scale and magnification always relate the image size to that of the subject. However, by enlarging the image, one can obtain a larger-than-life print.

## The challenges

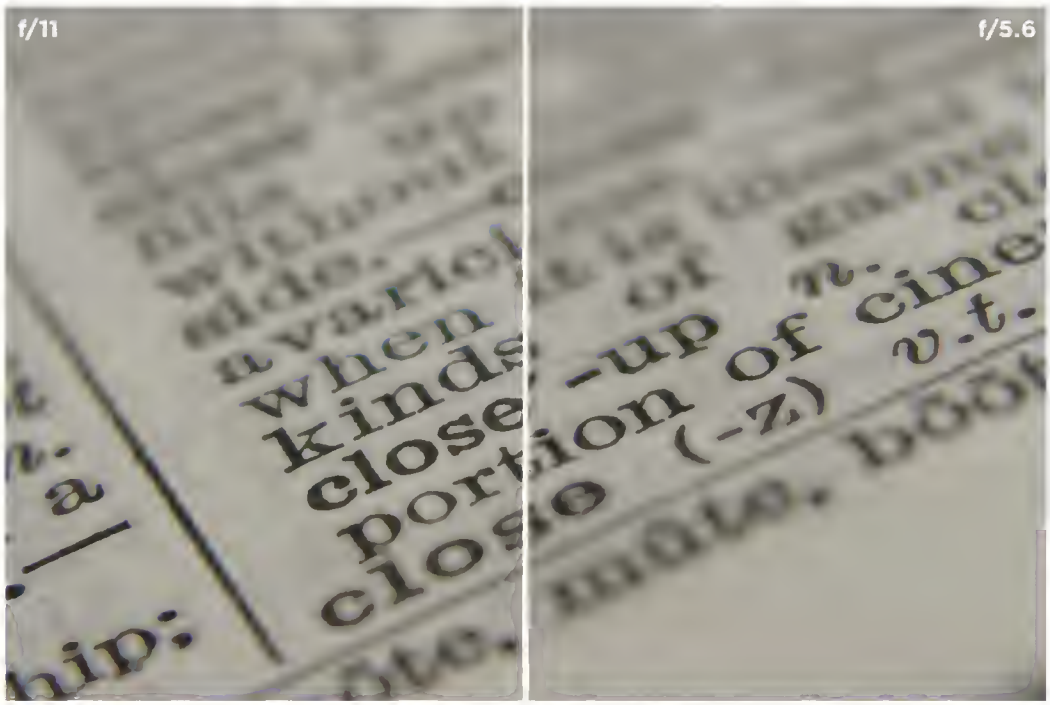
The difficulty of maintaining corrections with a 'macro' zoom lens in close-up invariably means that

## Modern 1:1 focusing lens



A modern 1:1 focusing lens. An SLR requires a retrofocus design, so the front group needs a broad front element to collect the light to pipe down the long barrel. However, its symmetrical design ancestry is visible

Depth of field becomes very shallow as the subject gets closer and, as this shot of a dictionary page shows, even at f/11 it is limited to a few millimetres




it is really only suitable for imaging natural subjects, so it is unsuitable for those with linear, straight-line features including document copying. Even at more usual subject distances, as when imaging buildings, a zoom lens has to be of a high calibre if horizontals and verticals are not to look bowed. This error is termed curvilinear distortion. If the lines curve inward to the frame centre it is popularly called 'cushion', and if outward it is called 'barrel' distortion.

When taking photographs of flowers, small creatures and so on with interest mainly in the frame centre, quite a measure of field bowing may be allowable. Yet for accurate imaging and copying marked drawings, errors are unacceptable. That is why lenses designed specially for close-up work to a 1:1 repro scale are necessary. Nikon may use the term rightly, but it has to be recognised that optical firms generally call this type of optic a 'macro lens'. A top-quality 1:1 focusing lens will be a monofocal (of fixed focal length) optic and not a zoom lens. The two main problems are curvilinear distortion (described above), and spherical aberration. The latter results in the image field being bowl shaped and not flat. It leads to an increasing loss of focus away from the image centre and with it a variation in magnification. It derives from the curved, spherical shape of the surfaces of the elements. It improves on stopping down, since a less deeply curved section of the lens components is being used.

Spherical aberration can be corrected by moving one or more groups of elements in the lens as focused distance changes. Such a feature is often called a 'floating' element. Its incorporation in a zoom lens that already has moving groups is usually impractical. The lower spherical aberration in zoom lenses nowadays is derived from the use of aspheric surfaced elements, those whose curves do not form part of a sphere. Their use has also made lower levels of curvilinear distortion possible in zoom lenses compared with earlier designs. Parallel progress in monofocal lenses has maintained the performance difference between the two in the best designs.

### Macro monofocals

A macro zoom lens may not work as close in or as well optically as a specially designed macro monofocal optic, but it does extend the choice of subjects in a worthwhile way. We are all cost conscious and a zoom lens may be an economic necessity. If experiments with a macro zoom lens whet an appetite for more, it is time to look into the special macro monofocal lenses available. Classically, close-focusing lenses have been based on a symmetrical design. This means that the rear group of elements behind the aperture diaphragm are identical to the one in front of it, only reversed or turned round. In this way the residual errors in the front group are cancelled out by the opposite sign of the rear group. The effect is most efficient when imaging at 1:1 and decreases as focus distance increases. Also, it does not work so well with wide apertures, which is why most early close-focusing lenses were of f/3.5-4 aperture. These are still found, though f/2.8 is the more normal maximum. Simple, straight symmetry has been extensively elaborated with modern optical technology to provide top-grade corrections, especially in colour, together with the wider aperture. **AP**

In the second part of his article in **AP 12 September**, Geoffrey Crawley be looking at the special equipment available for close-up work and how it is used.

# Roger Hicks

## HOW MANY LENSES DO YOU NEED AND WHAT AFFECTS YOUR CHOICE WHEN BUYING AN OPTIC?

**ROGER HICKS** is a much-published author on photography. He has written more than three dozen books on the subject, many in partnership with his wife, Frances Schultz. Roger started photography as a teenager in the 1960s and worked professionally in a London advertising studio in the mid-1970s. He has been a freelance photographer/writer since 1981, contributing to many photography magazines, including 'Shutterbug' in America. Visit his website at www.rogerandfrances.com.

NOWADAYS, most people use zoom lenses for most of the time. Yet many still prefer prime lenses because they are smaller, lighter, faster, contrastier, cheaper and have less distortion.

So if you take this route, which prime lens should you choose? Some focal lengths are more congenial than others, there's no doubt. There's equally little doubt that there's a limit to the advice others can give as to the focal length you will find most congenial. On 35mm film, for me, it's 35mm, with 75mm as my second lens. For my wife, it's 50mm with 18mm as her second lens.

Increasingly, though, I wonder how much it matters at all. Quite often, I test lenses for *Shutterbug* magazine in the USA, and within reason, I simply adapt my style and subject matter to the lens I am using.

Well, I say that I adapt, but unless the lens has a very marked 'signature', or unless there are other internal clues in the picture (such as 'stretched' heads at the edge of a wideangle shot) I often can't tell after a few months what lens I used for a particular picture. It's true that there are a few lenses where I deliberately exploit their characteristics, such as the 90mm f/2.2 soft-focus Thambar. Yet I don't really like the 'full-house' soft-focus effect and in quite a few pictures I could achieve the same look with an early 90mm f/2 Summicron, the big chrome version, or indeed with a lens that is currently on loan from a friend, a 1950s 50mm f/2 Summitar with generous cleaning marks and a fair chunk of balsam separation. This leads to no fewer than five separate lines of thought.

The first is why I bother to use more than two or three lenses in total. I suppose the answer is that there are times when I need an extreme wideangle optic, or the longest lens I can conveniently use, but most of the time it really doesn't matter.

The second, closely related, is why I don't like zoom lenses. Well, of course, one answer is that M-series Leicas don't take zooms, but even when I used reflexes I still preferred primes. Indeed I still do. I find zooms to be a waste of time, in the strictest sense. There's always that temptation to tweak the focal length, and in so doing, lose the moment. With a prime lens, it's camera to eye and then shoot.

The third is why on earth a 1930s Thambar is worth £2,000 or more when I could find a 90mm Summicron from the 1950s for well under half that and the ratty old Summitar might go for one-tenth as much. The answer seems to be predictability, allied with chance: predictability, in that the Thambar is designed to be soft, rather than relying on less-than-optimal 1950s design (Summicron) or wear and tear verging on destruction (Summitar); chance, in that I got the Thambar first. If I already had the Summicron, or possibly the Summitar, I might not have bothered with the Thambar.

> **"Even when I used reflexes I still preferred primes. Indeed I still do. I find zooms to be a waste of time, in the strictest sense"**

The fourth, again closely related to the third, concerns snobbery and reverse snobbery. Snobs use Thambars, or the latest aspheric super-deluxe lenses, because they can afford them, rather than because they particularly need (or even like) the effects they give. Reverse snobs declare that their Soviet-era Jupiters are every bit the equal of Leica lenses at 20x or 50x the price, either because they can't afford the Leica lenses or because they have never tried a decent lens for comparison.

Of course, some people exploit the characteristics of individual lenses to the full, whether they're the latest 21mm f/1.4 Summilux at half the price of a new car, or an old Jupiter-9 that costs less than a Leica UV/IR filter. Yet these people are photographers, not snobs or reverse snobs.

Fifth, I believe in magic. Some lenses are magic, while others aren't. Magic is not especially closely related to cost, but even more surprisingly, its relationship with focal length seems to be a matter of chance. It is also personal, which is where I started this piece. There's really no way for me to tell you what lens(es) you will find most useful and congenial. Nowadays, I read 'road tests' in magazines to see what lenses I can rule out, not which lenses might suit me OK. There are surprisingly many of both which, when you think about it, is as it should be. **AP**



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